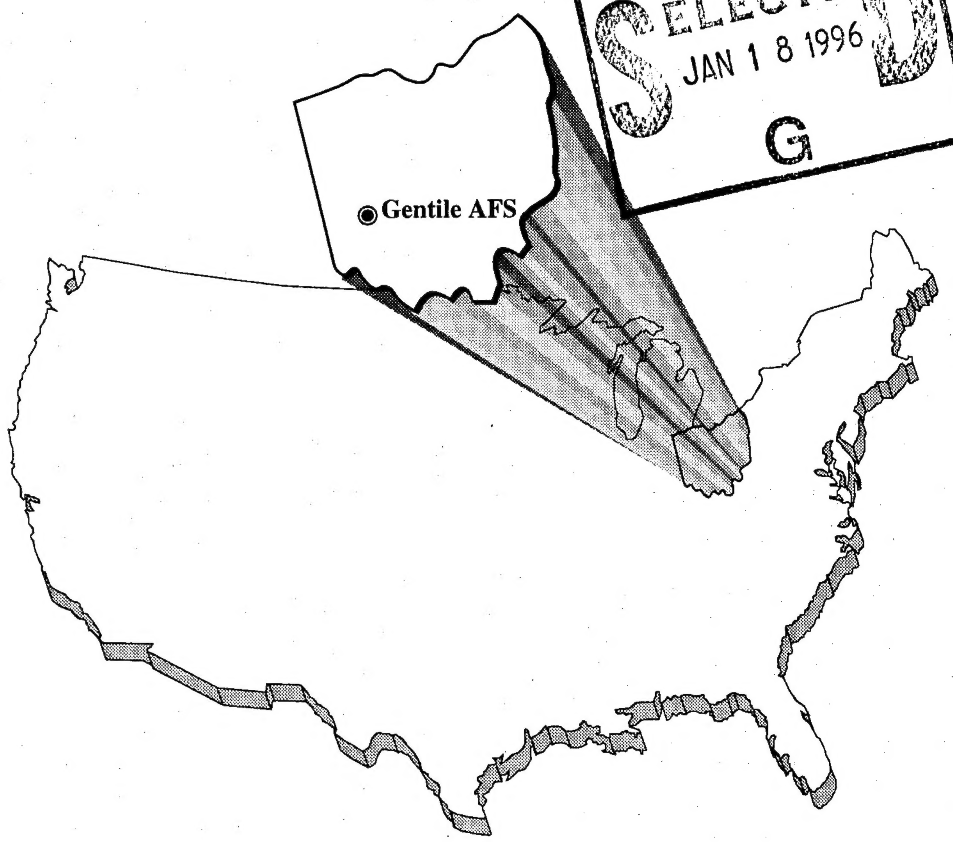
FINAL
ENVIRONMENTAL IMPACT STATEMENT
December 1995



DISPOSAL OF GENTILE AIR FORCE STATION, OHIO

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, DC

-5 JAN 1996

MEMORANDUM FOR INTERESTED INDIVIDUALS, ORGANIZATIONS, AND PUBLIC AND ACADEMIC REFERENCE LIBRARIES

FROM: HQ USAF/CEV
1260 Air Force Pentagon
Washington, DC 20330-1260

SUBJECT: Final Environmental Impact Statement (FEIS) for the Disposal of Gentile Air Force Station (AFS), OH

We are pleased to provide you the FEIS for the Disposal of Gentile AFS, OH. This document is provided in compliance with the regulations of the President's Council on Environmental Quality. This FEIS has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of disposal of the base. Libraries should file this document for public access and reference.

If additional copies or information are needed, please contact Mr. George H. Gauger, Environmental Conservation and Planning Directorate, Headquarters Air Force Center for Environmental Excellence, 3207 North Road, Brooks Air Force Base, TX 78235-5363; Phone (210) 536-3069.

Thank you for your cooperation.

Robert M. Wallett

ROBERT M. WALLETT, Lt Colonel, USAF
Director of Environment
Office of The Civil Engineer

Attachment:
FEIS

FINAL

ENVIRONMENTAL IMPACT STATEMENT

DISPOSAL OF GENTILE AIR FORCE STATION MONTGOMERY COUNTY, OHIO

DECEMBER 1995

COVER SHEET

FINAL ENVIRONMENTAL IMPACT STATEMENT
DISPOSAL OF GENTILE AIR FORCE STATION, OHIO

a. Lead Agency: U.S. Air Force

b. Proposed Action: Disposal of Gentile Air Force Station (AFS), Montgomery County, Ohio

c. Inquiries on this document should be directed to: Chief of Environmental Planning Division, AFCEE-EC, 8106 Chennault Road, Building 1155, Brooks AFB, Texas 78235-5318, (210) 536-3907

d. Designation: Final Environmental Impact Statement (FEIS)

e. Abstract: Pursuant to the Base Closure and Realignment Act of 1990, Gentile AFS is scheduled for closure in December 1996. This environmental impact statement has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of the disposal and reasonable alternatives for reuse of the station. The document includes analyses of community setting, land use and aesthetics, transportation, utilities, hazardous materials and hazardous waste management, geology and soils, water resources, air quality, biological resources, and cultural resources. Three reuse alternatives were examined: a Proposed Action that includes industrial and commercial development; a Mixed Use Alternative that features commercial, industrial, and residential development; and an Industrial Alternative that features industrial and public facilities/recreation use of Gentile AFS. All alternatives include a Defense Finance and Accounting Service satellite office. A No-Action Alternative, which would entail no reuse of station property, was also evaluated.

Potential environmental impacts are increased traffic and emissions of air pollutants over closure baseline conditions. Roadway improvements may be needed to prevent unacceptable traffic congestion. Increased air pollutant emissions would not affect the region's attainment status. Redevelopment activities could alter drainage patterns and increase erosion, which could be mitigated through proper engineering designs. A potential wetland area could be affected due to implementation of the reuse alternatives. If avoidance of impacts is not viable, mitigation in the form of replacement, restoration, or enhancement is possible. No cultural resources were identified. Impacts from the Mixed Use and Industrial alternatives would be similar to those for the Proposed Action. There would be no adverse effects from the No-Action Alternative. Because the Air Force is disposing of property, some of the mitigation measures are beyond the control of the Air Force. Remediation of hazardous waste sites is and will continue to be the responsibility of the Air Force and the Defense Logistics Agency.

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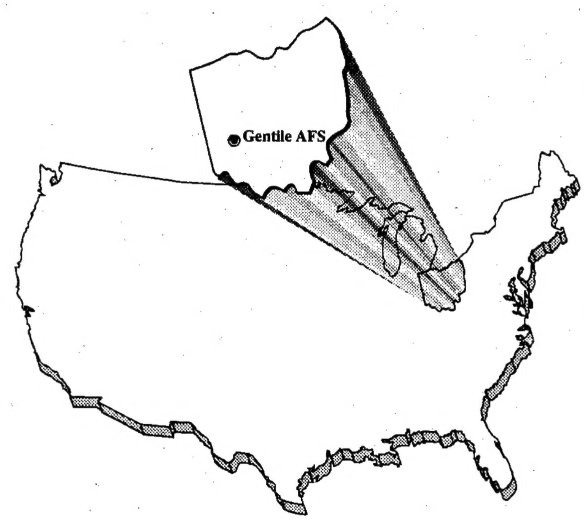


SUMMARY

SUMMARY

PURPOSE OF AND NEED FOR ACTION

Gentile Air Force Station (AFS), Ohio, was one of the installations recommended by the 1993 Defense Base Closure and Realignment Commission for closure. The Commission's recommendations were accepted by the President and submitted to Congress on July 2, 1993. Since Congress did not disapprove the recommendations in the time given under the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law 101-510, Title XXIX), the recommendations have become law. Gentile AFS is scheduled to close in December 1996.

The Air Force is required to comply with the National Environmental Policy Act (NEPA) in the implementation of the station disposal. The Air Force must now make a series of interrelated decisions concerning the disposition of station property to be excessed. This environmental impact statement (EIS) has been prepared to provide information on the potential environmental impacts resulting from disposal and proposed reuse of this station property. DBCRA exempts from NEPA consideration all decisions to close, realign, or transfer military functions and installations; however, the impacts associated with installations that gain missions are not exempt. Three alternative reuse concepts are studied to identify a range of potential direct and indirect environmental consequences of disposal of the property.

After completion and consideration of this EIS, the Air Force will prepare decision documents stating what property is excess and surplus, and the terms and conditions under which the dispositions will be made. These decisions may affect the environment by influencing the nature of the future use of the property.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

Gentile AFS is composed of 164 acres of federal government fee-owned property that shall be available for disposal. The land uses within the current station boundary include industrial, institutional (medical and educational), commercial, residential, and public facilities/recreation.

For the purpose of evaluating potential environmental impacts resulting from the reuse of this land, the Proposed Action is based on the March 1995 community reuse plan, presented by the Defense Electronics Supply Center Reuse Committee. The Proposed Action is a comprehensive plan for redevelopment of the station for industrial, commercial, public/recreation facilities, and federal uses. The focus of the Proposed Action is industrial reuse of the facilities, including light manufacturing and warehousing. Other reuse activities include a Defense Finance and Accounting Service (DFAS)

satellite office and other federal office space, commercial offices, outdoor recreational facilities, and the Montgomery County Board of Mental Retardation (office and assembly activity).

The following alternatives to the Proposed Action are being considered:

- **Mixed Use Alternative.** This alternative focuses on industrial (light manufacturing and warehousing) and commercial (office) utilization of the station. Other land uses include residential development in the southern portion of the station, outdoor recreation, and DFAS.

- **Industrial Alternative.** This alternative focuses on industrial (light manufacturing and warehousing) in the northern and central portions of the station, and public facilities/recreation in the central and southern areas of the station. Other reuse activities include commercial office space, residential development, and DFAS. The Montgomery County Board of Mental Retardation would operate in the same capacity as the Proposed Action.

- Under the **No-Action Alternative,** the station property would remain under caretaker status with no civilian reuse in the long term. The No-Action Alternative is used as a baseline from which to judge environmental impacts from other reuse alternatives.

Other Land Use Concepts. No other land use concepts have been identified.

SCOPE OF STUDY

The Notice of Intent to prepare an EIS for the disposal of Gentile AFS was published in the Federal Register on October 29, 1993. Issues related to the disposal of property at Gentile AFS were identified during an ensuing scoping period. A public scoping meeting was held on September 14, 1994, at the Council Chambers of the Kettering City Hall, Kettering, Ohio. The comments and concerns expressed at this meeting and in written correspondence received by the Air Force, as well as information from other sources, were used to determine the scope and direction of studies and analyses required to accomplish this EIS.

This EIS discusses the potential environmental impacts associated with the Proposed Action and reasonable alternatives. In order to establish the context in which these environmental impacts may occur, potential changes in population and employment, land use and aesthetics, transportation, and utility services are discussed as reuse-related influencing factors. Issues related to current and future management of hazardous materials and hazardous wastes are also discussed. Potential impacts to the physical and natural environment are evaluated for geology and soils, water resources, air quality, biological resources, and cultural resources. These impacts may occur as a direct result of disposal actions or as an indirect result of changes to the local communities.

The baseline against which the Proposed Action and alternatives are analyzed consists of the conditions projected at station closure in 1996. Although the baseline assumes a closed station, a reference to preclosure conditions is provided in several sections (e.g., air quality) to allow a comparative analysis over time. This will assist the Air Force decision maker, and other agencies that may be making decisions relating to the disposal of Gentile AFS, in understanding potential long-term trends in comparison to historic conditions when the installation was completely active.

The Air Force has also prepared a separate socioeconomic impact analysis study (SIAS) on the economic impacts expected in the region as a result of the closure, and various alternatives for disposal of Gentile AFS. That document, although not required by NEPA, will assist the local community in planning for the transition of the station from military to civilian use. The EIS uses population and employment projections from the SIAS to support the analysis of potential environmental impacts to biophysical resources.

SUMMARY OF ENVIRONMENTAL IMPACTS

This EIS considers environmental impacts of the Air Force's disposal of the installation, and portrays potential land uses to cover reasonable future uses of the property and facilities by others. Three alternative scenarios, including the community's proposed plan, were used to group reasonable land uses and to examine the environmental effects of likely reuse.

Environmental impacts of the Proposed Action and reasonable alternative are briefly described below. Reuse-related factors include projections of the reuse activities that would likely affect the biophysical environment including ground disturbance, socioeconomic factors, and infrastructure demands, and are summarized in Table S-1. The employment and population trends are depicted in Figures S-1 and S-2. Impacts of the Proposed Action and alternatives over the 20-year study period are summarized in Table S-2. Impacts for air quality are summarized over a 10-year period due to the speculative nature of projecting pollution concentrations far in the future.

Mitigations and Pollution Prevention. Options for mitigating potential environmental impacts that might result from the Air Force disposing of property or from the implementation of the Proposed Action or alternatives by property recipients are presented and discussed where applicable. Since most potential environmental impacts would directly result from the reuse by others, the Air Force typically would not be responsible for implementing such mitigations. Full responsibility for these suggested mitigations, therefore, would be primarily borne by future property recipients or local governmental agencies. Mitigation suggestions for affected resource areas, where appropriate, are summarized along with the environmental impacts of the Proposed Action and alternatives in Table S-2. However, remediation of

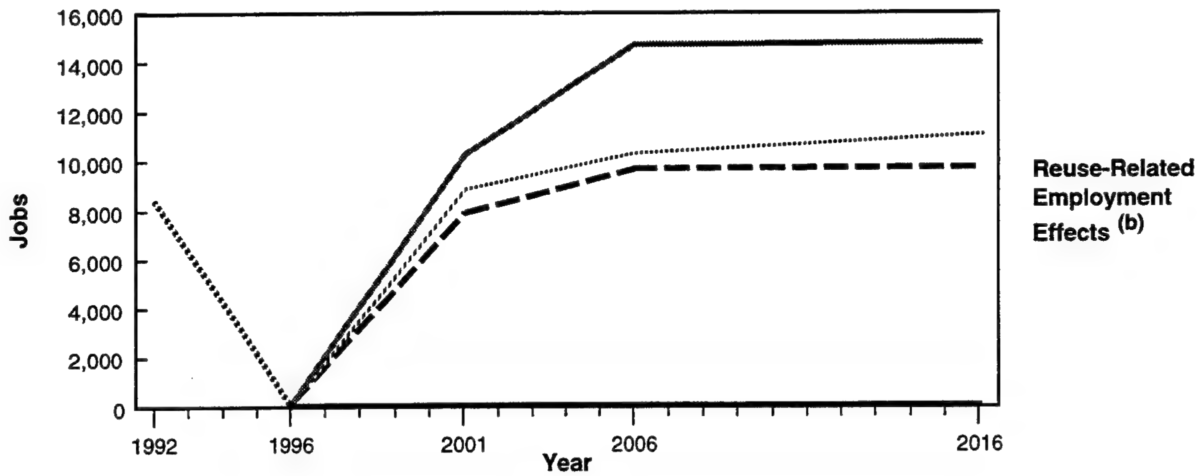
Table S-1. Summary of Reuse-Related Factors Compared to No-Action Alternative

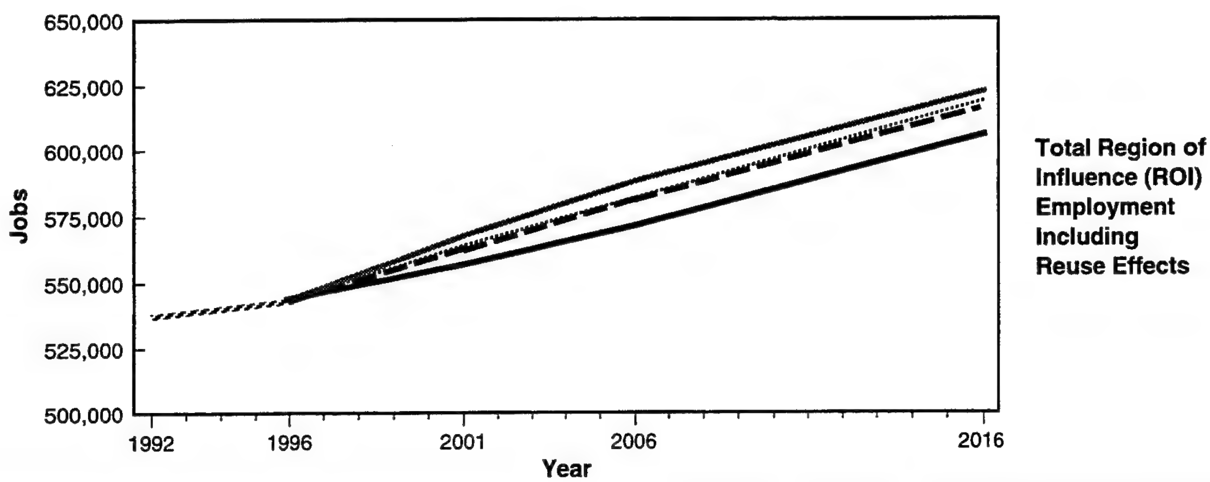
Factor	Proposed Action			Mixed Use Alternative			Industrial Alternative			No-Action Alternative[b]
	2001	2006	2016	2001	2006	2016	2001	2006	2016	
Ground Disturbance (acres, by phase)[a]	31	21	1	53	19	4	42	11	0	0
Direct Employment[a]	3,875	5,737	5,737	3,315	3,968	4,314	3,059	3,707	3,707	5
Secondary Employment	6,284	8,945	8,945	5,479	6,234	6,635	4,784	5,945	5,945	No change
Population Increase	745	1,119	1,187	634	775	889	577	726	772	No change
Traffic (average daily vehicular traffic)[a]	11,300	16,900	16,900	8,300	11,250	12,250	7,400	9,350	9,350	50
Water Consumption (MGD)	0.20	0.29	0.30	0.23	0.31	0.32	0.17	0.22	0.22	No change
Wastewater Treatment (MGD)	0.16	0.24	0.25	0.19	0.26	0.27	0.14	0.17	0.18	No change
Solid Waste Disposal (tons/day)	15.53	23.05	23.17	14.39	17.41	18.56	12.75	15.80	15.88	No change
Electrical Consumption (MWH/day)	64.94	97.29	98.00	66.44	80.58	84.36	56.52	72.22	72.70	No change
Natural Gas Consumption (MMCF/day)	0.37	0.55	0.55	0.36	0.43	0.46	0.31	0.40	0.40	No change

Notes: Values shown represent increases over the projected No-Action Alternative in each year as a result of implementing that alternative.
(a) Values represent increases for on-station activities only.
(b) The No-Action Alternative values summarize influencing factors relative to the closure baseline conditions.
MGD = million gallons per day
MMCF = million cubic feet
MWH = megawatt-hours

ALTERNATIVE	1996 [a]	2001	2006	2016
Proposed Action [c]	15	10,206	14,682	14,682
Mixed Use Alternative	15	8,794	10,202	10,949
Industrial Alternative [c]	15	7,843	9,652	9,652

Reuse-Related Employment Effects [b]





EXPLANATION

- Preclosure
- Proposed Action
- Mixed Use Alternative
- Industrial Alternative
- No-Action Alternative

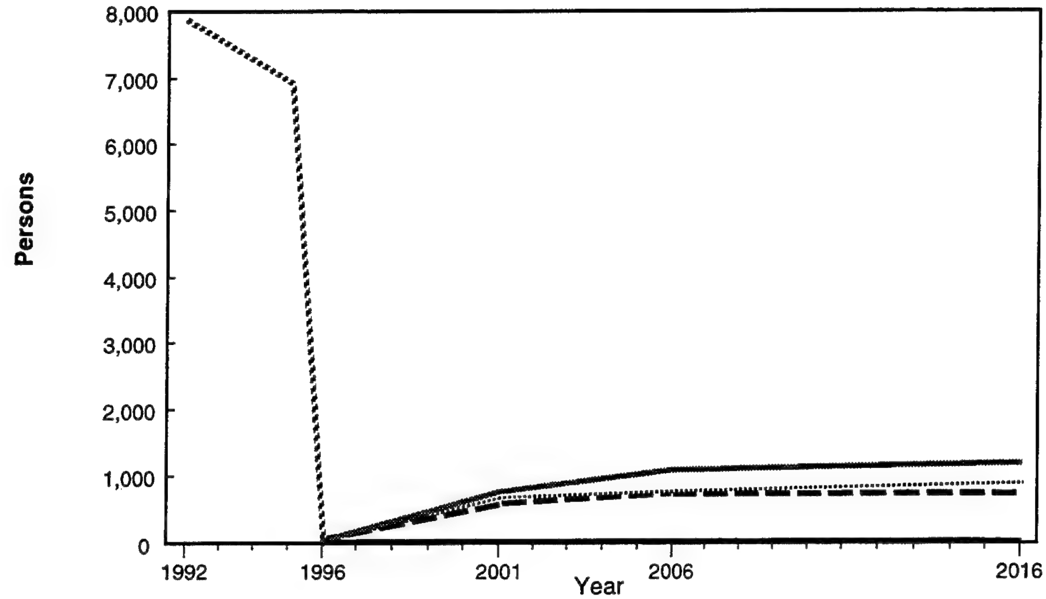
(a) The 1996 values represent total station-related employment under the closure baseline.
(b) Employment effects include both direct and secondary employment and represent the change in employment relative to the No-Action Alternative.
(c) Reuse-related employment would reach its maximum by 2006 as a result of full utilization of Gentile AFS facilities.

Reuse-Related Employment Effects

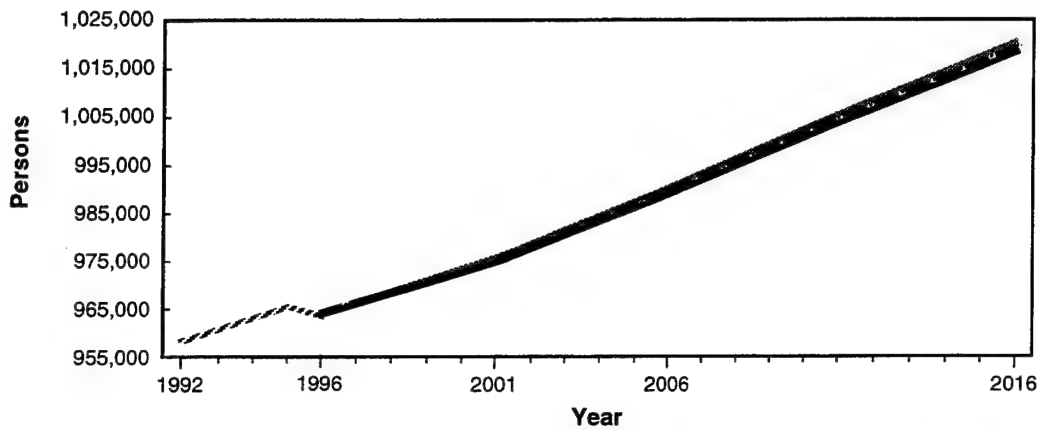
Figure S-1

ALTERNATIVE	1996 (a)	2001	2006	2016
Proposed Action	0	745	1,119	1,187
Mixed Use Alternative	0	634	775	889
Industrial Alternative	0	577	726	772

Reuse-Related Population Effects



Reuse-Related Population Effects



Total ROI Population Including Reuse

EXPLANATION

- Preclosure
- Proposed Action
- Mixed Use Alternative
- Industrial Alternative
- No-Action Alternative

Reuse-Related Population Effects

Note: (a) 1996 represents closure conditions. Reuse-related population effects are the persons that would move into the ROI solely as a result of reuse.

Figure S-2

Table S-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Local Community				
• Land Use and Aesthetics	• Impacts: Civilian redevelopment of 140 acres. Federal use of 24 acres. Proposed reuses would not have land use controls. Visual quality could be improved by proposed development activities	• Impacts: Civilian redevelopment of 147 acres. Federal use of 17 acres. Proposed reuses would not have land use controls. Impacts to visual quality could be improved by proposed redevelopment activities	• Impacts: Civilian redevelopment of 147 acres. Federal use of 17 acres. Proposed reuses would not have land use controls. Impacts to visual quality could be improved by proposed redevelopment activities	• Impacts: No change in on-station land use. Vacant land could enhance visual quality in the long term
	• Mitigations: None required Use of landscape screening	• Mitigations: None required Use of landscape screening	• Mitigations: None required Use of landscape screening	
• Transportation	• Impacts: Increase of 16,900 daily vehicular trips. One access point eliminated. Some roadway segments would maintain unacceptable LOS	• Impacts: Increase of 12,250 daily vehicular trips. Two new access points provided. Some roadway segments would maintain unacceptable LOS	• Impacts: Increase of 9,350 daily vehicular trips. No additional access points provided. Some roadway segments would maintain unacceptable LOS	• Impacts: No changes in station-related traffic
	• Mitigations: The city of Kettering could implement road improvements to raise LOS to meet transportation planning criteria	• Mitigations: The city of Kettering could implement road improvements to raise LOS to meet transportation planning criteria	• Mitigations: The city of Kettering could implement road improvements to raise LOS to meet transportation planning criteria	

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
LOS = level of service

Table S-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 2 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Local Community (Continued)				
• Utilities Use	• Impacts: Current systems able to accommodate increased utility demands. Interconnection of utility systems required to provide service to on-station users.	• Impacts: Current systems able to accommodate increased utility demands. Interconnection of utility systems required to provide service to on-station users.	• Impacts: Current systems able to accommodate increased utility demands. Interconnection of utility systems required to provide service to on-station users.	• Impacts: No changes in station-related utility use
	• Mitigations: None required	• Mitigations: None required	• Mitigations: None required	
Hazardous Materials and Hazardous Waste Management				
• Hazardous Materials Management	• Impacts: Increase in quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: Increase in quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: Increase in quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: No change in types and quantities used
	• Mitigations: None required	• Mitigations: None required	• Mitigations: None required	

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.

Table S-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 3 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Hazardous Waste Management	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts • Mitigations: None required	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts • Mitigations: None required	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts • Mitigations: None required	• Impacts: No change in quantities of wastes generated
• Installation Restoration Program	• Impacts: Possible redevelopment delays and land use restrictions due to remediation • Mitigations: None required	• Impacts: Possible redevelopment delays and land use restrictions due to remediation • Mitigations: None required	• Impacts: Possible redevelopment delays and land use restrictions due to remediation • Mitigations: None required	• Impacts: IRP remediation activities completed or continued as needed

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
IRP = Installation Restoration Program

Table S-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 4 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Storage Tanks	• Impacts: Storage tanks required by new owners/operators would be subject to all regulations to avoid unacceptable impacts	• Impacts: Storage tanks required by new owners/operators would be subject to all regulations to avoid unacceptable impacts	• Impacts: Storage tanks required by new owners/operators would be subject to all regulations to avoid unacceptable impacts	• Impacts: Storage tanks would be removed or maintained in place according to applicable regulations
	• Mitigations: None required	• Mitigations: None required	• Mitigations: None required	
• Asbestos	• Impacts: Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos would be managed in accordance with applicable regulations to minimize potential risk to human health or the environment	• Impacts: Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos would be managed in accordance with applicable regulations to minimize potential risk to human health or the environment	• Impacts: Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos would be managed in accordance with applicable regulations to minimize potential risk to human health or the environment	• Impacts: Continued management of asbestos in accordance with Air Force policy
	• Mitigations: None required	• Mitigations: None required	• Mitigations: None required	

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.

Table S-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Pesticide Usage	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts	Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts	Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts	No change in usage or management practices
	• Mitigations:	• Mitigations:	• Mitigations:	
	None required	None required	None required	
• Polychlorinated Biphenyls	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	All federally regulated PCBs removed prior to closure	All federally regulated PCBs removed prior to closure	All federally regulated PCBs removed prior to closure	All federally regulated PCBs removed prior to closure
	• Mitigations:	• Mitigations:	• Mitigations:	
	None required	None required	None required	
• Radon	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	All facilities surveyed that registered elevated radon levels above 4 pCi/l are proposed for demolition under this proposal	All facilities surveyed that registered elevated radon levels above 4 pCi/l are proposed for demolition under this proposal	All facilities surveyed that registered elevated radon levels above 4 pCi/l are proposed for demolition under this proposal	Affected facilities have been remediated in accordance with Air Force policy
	• Mitigations:	• Mitigations:	• Mitigations:	
	None required	None required	None required	

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
FIFRA = Federal Insecticide, Fungicide, and Rodenticide Act
PCB = polychlorinated biphenyl
pCi/l = picocuries per liter

Table S-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 6 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Medical/Biohazardous Waste	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	None generated under proposed reuses	None generated under proposed reuses	None generated under proposed reuses	No impact. None generated
	• Mitigations:	• Mitigations:	• Mitigations:	
	None required	None required	None required	
• Ordnance	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	None used under proposed reuses	None used under proposed reuses	None used under proposed reuses	No impact. None used
	• Mitigations:	• Mitigations:	• Mitigations:	
	None required	None required	None required	
• Lead-Based Paint	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	Removal and disposal of lead-based paint in facilities to be demolished or renovated would be managed in accordance with applicable regulations	Removal and disposal of lead-based paint in facilities to be demolished or renovated would be managed in accordance with applicable regulations	Removal and disposal of lead-based paint in facilities to be demolished or renovated would be managed in accordance with applicable regulations	Facilities containing lead-based paint will be managed according to applicable regulations
	• Mitigations:	• Mitigations:	• Mitigations:	
	None required	None required	None required	

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.

Table S-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Natural Environment				
• Geology and Soils	• Impacts: Compliance with local requirements and standard construction practices would reduce the potential for impacts from construction activities	• Impacts: Compliance with local requirements and standard construction practices would reduce the potential for impacts from construction activities	• Impacts: Compliance with local requirements and standard construction practices would reduce the potential for impacts from construction activities	• Impacts: No ground disturbance
	• Mitigations: Erosion control if not required by regulation	• Mitigations: Erosion control if not required by regulation	• Mitigations: Erosion control if not required by regulation	
• Water Resources	• Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts. Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains.	• Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts. Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains.	• Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts. Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains.	• Impacts: No ground disturbance. No change in water demand
	Mitigations: Erosion control if not required by regulation	Mitigations: Erosion control if not required by regulation	Mitigations: Erosion control if not required by regulation	

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
AFI = Air Force Instruction
EO = Executive Order
NPDES = National Pollutant Discharge Elimination System

Table S-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 8 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
National Environment (Continued)				
• Air Quality	• Impacts: Regional emissions will not exceed NAAQS and the region's attainment status would not be affected • Mitigations: None required	• Impacts: Regional emissions will not exceed NAAQS and the region's attainment status would not be affected • Mitigations: None required	• Impacts: Regional emissions will not exceed NAAQS and the region's attainment status would not be affected • Mitigations: None required	• Impacts: No change in station-related air emissions
• Biological Resources	• Impacts: Potential impact to approximately 2 acres of wetlands • Mitigations: Wetlands mitigation could include avoidance through facility design, replacement, enhancement of wetland habitat, or control of construction-related erosion into potential wetlands	• Impacts: Potential impact to approximately 2 acres of wetlands • Mitigations: Wetlands mitigation could include avoidance through facility design, replacement, enhancement of wetland habitat, or control of construction-related erosion into potential wetlands	• Impacts: Potential impact to approximately 2 acres of wetlands • Mitigations: Wetlands mitigation could include avoidance through facility design, replacement, enhancement of wetland habitat, or control of construction-related erosion into potential wetlands	• Impacts: Minimal ground disturbance. No change in station-related activities. Potential increase in habitat value due to long-term decrease in human activity
• Cultural Resources	• Impacts: No impact. No archaeological sites or historic properties identified • Mitigations: None required	• Impacts: No impact. No archaeological sites or historic properties identified • Mitigations: None required	• Impacts: • No impact. No archaeological sites or historic properties identified • Mitigations: None required	• Impacts: No impact. No archaeological sites or historic properties identified

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
NAAQS = National Ambient Air Quality Standards

hazardous waste sites under the Installation Restoration Program (IRP) and other applicable regulatory programs is and will continue to be the responsibility of the Air Force and the Defense Logistics Agency.

PROPOSED ACTION

Local Community. Redevelopment of the station property under the Proposed Action would result in an increase in employment and population in the region of influence (ROI) compared to the No-Action Alternative. The ROI consists of the Ohio counties of Clark, Greene, Miami, and Montgomery. Most of the increases would affect the communities of Dayton, Huber Heights, and Kettering in Montgomery County; and Beavercreek in Greene County. Reuse activities would increase employment levels by approximately 5,737 direct jobs and 8,945 secondary jobs by 2016, resulting in a total ROI employment of 622,098 by 2014. The Proposed Action would increase ROI population by 1,187 persons over post-closure conditions by 2016.

Noticeable changes to on-station land uses would occur due to civilian redevelopment. Proposed on-station land uses generally would be compatible with each other. Proposed civilian land uses would not have land use controls; the development policies within the local jurisdictions likely would be revised to reflect the changes in land use as a result of the Proposed Action. Redevelopment could visually integrate the station into a community setting, and appropriate planning could enhance the overall visual character.

The Proposed Action would have one less entry point; vehicle access to the southern portion of the station would be eliminated. Traffic associated with the Proposed Action would degrade the level of service (LOS) on most roadways in the vicinity of Gentile AFS. Implementation of roadway improvements could improve the LOS to meet transportation planning criteria. No air or rail transportation impacts are expected under the Proposed Action.

Utility consumption associated with the Proposed Action would represent an increase to the ROI demand, and could be accommodated by existing and future system capacities. Effluent from proposed reuse activities would be monitored to ensure conformance with regulatory requirements.

Hazardous Materials and Hazardous Waste Management. The quantities of hazardous materials and hazardous waste used and generated under the Proposed Action are expected to be greater than closure conditions. The responsibility for managing hazardous materials and hazardous wastes would shift from a single user to multiple, independent users. This may reduce the capability of responding to hazardous materials and hazardous waste spills, and would increase the regulatory burden. Compliance with the Resource Conservation Recovery Act (RCRA) would preclude unacceptable impacts.

Reuse activities are not expected to affect remediation under the IRP, which is proceeding according to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulations. However, redevelopment of some properties may be delayed or land use restrictions may be required due to the extent and type of site contamination, and current and future IRP remediation activities. Based on the results of IRP investigations, the Air Force may, where appropriate, place limits on land reuse through deed restrictions on conveyances and use restrictions on leases. Prior to property disposal, existing underground storage tanks (USTs) would be deactivated and removed. Any remediation/cleanup activities associated with contamination from leaking USTs would comply with the regulations set by the Ohio Bureau of Underground Storage Tanks (OBUST). Unused aboveground storage tanks would be purged and assessed, and remedial action would be taken if necessary. Oil/water separators would be pumped, removed, and remedial action taken, if necessary. Appropriate precautions to avoid damage to storage tanks, and distribution lines should be implemented during construction and operations. All polychlorinated biphenyl (PCB) equipment and PCB-contaminated equipment would be removed from the station prior to closure. The Former Small Arms Firing Range will be surveyed and cleared, if necessary, prior to disposal. The Former Small Arms Firing Range will also undergo an environmental site characterization.

Asbestos that poses a health risk will be addressed prior to property disposal. Proper management of asbestos remaining in existing buildings will minimize the potential risk to human health and the environment. Demolition or renovation of structures with asbestos-containing material (ACM) would be subject to applicable regulations and National Emissions Standards for Hazardous Air Pollutants (NESHAP). Increased pesticide usage due to increased landscaped areas would be subject to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and state guidelines. The Commander's Residence is proposed for demolition under the Proposed Action, and therefore no effect from radon levels that registered above 4 picocuries per liter are expected. Recipients of facilities constructed during or prior to 1978 would be notified that lead-based paint may exist on the premises.

Natural Environment. The Proposed Action would result in effects on soils and water resources from ground disturbance associated with facility construction, renovations, demolition, and infrastructure improvements. There is an abundant water supply from groundwater sources in the ROI.

Air pollutant emissions generated by the Proposed Action would be greater than those by the No-Action Alternative, but would still remain below federal standards.

Effects to biological resources would be minimal under the Proposed Action. Development could result in an impact to the West Branch of Little Beaver

Creek (a potential wetland) in the southern section of the station. No cultural resources were identified at Gentile AFS.

MIXED USE ALTERNATIVE

Local Community. Redevelopment of the station property under this alternative would result in an increase in employment and population in the ROI compared to the No-Action Alternative. Reuse activities would increase employment levels by approximately 4,315 direct jobs and 6,635 secondary jobs by 2016, resulting in a total ROI employment of 618,365 by 2016. The Mixed Use Alternative would increase ROI population by approximately 889 persons over post-closure conditions by 2016.

Noticeable changes to on-station land uses would occur due to civilian redevelopment. Proposed on-station land uses generally would be compatible with each other. Proposed civilian land uses would not have land use controls; the development policies within the local jurisdictions likely would be revised to reflect the changes in land use as a result of this alternative. Visual impacts associated with redevelopment would be similar to the Proposed Action, and may improve over closure conditions by using appropriate planning and design.

The Mixed Use Alternative would incorporate two new entry points to improve access to the station. Traffic associated with the Mixed Use Alternative would degrade the LOS on most roadways in the vicinity of Gentile AFS. No air or rail transportation impacts are expected under the Mixed Use Alternative.

Utility consumption associated with the Mixed Use Alternative would be less than the Proposed Action, and could be accommodated by existing and future system capacities. Effluent from reuse activities would be monitored to ensure conformance with regulatory requirements.

Hazardous Materials and Hazardous Waste Management. The quantities of hazardous materials utilized and hazardous wastes generated would be greater than under closure conditions. The responsibility for managing hazardous materials and hazardous wastes would shift from a single user to multiple, independent users. This may reduce the capability of responding to hazardous materials and hazardous waste spills, and would increase the regulatory burden. Compliance with RCRA would preclude unacceptable impacts.

Reuse activities are not expected to affect remediation under the IRP, which is proceeding according to CERCLA regulations. However, redevelopment of some properties may be delayed or land use restrictions may be required due to the extent and type of site contamination, and current and future IRP remediation activities. Based on the results of IRP investigations, the Air Force may, where appropriate, place limits on land reuse through deed restrictions on conveyances and use restrictions on leases. Prior to property

disposal, existing USTs would be deactivated and removed. Any remediation/cleanup activities associated with contamination from leaking USTs would comply with the regulations set by the OBUST. Unused aboveground storage tanks would be purged and assessed, and remedial action would be taken, if necessary. Oil/water separators would be pumped, removed, and remedial action taken, if necessary. Appropriate precautions to avoid damage to storage tanks and distribution lines should be implemented during construction and operations. All PCB equipment and PCB-contaminated equipment would be removed from the station prior to closure. The Former Small Arms Firing Range will be surveyed and cleared, if necessary, prior to disposal. The Former Small Arms Firing Range will also undergo an environmental site characterization.

Asbestos that poses a health risk will be addressed prior to property disposal. Proper management of asbestos remaining in existing buildings will minimize the potential risk to human health and the environment. Demolition or renovation of structures with ACM would be subject to applicable regulations and NESHAP. Increased pesticide usage due to civilian reuse would be subject to FIFRA and state guidelines. The Commander's Residence, which had radon levels above recommended guidelines, would be demolished; no radon effects are expected. Recipients of facilities constructed during or prior to 1978 would be notified that lead-based paint may exist on the premises.

Natural Environment. The Mixed Use Alternative would result in effects on soils and water resources from ground disturbance associated with facility construction, renovations, demolition, and infrastructure improvements. There is an abundant water supply from groundwater sources in the ROI.

Air pollutant emissions generated by this alternative would be greater than the No-Action Alternative, but would still remain below federal standards.

Effects to biological resources would be minimal under the Mixed Use Alternative. Development could result in an impact to the West Branch of Little Beaver Creek (a potential wetland) in the southern section of the station. No cultural resources were identified at Gentile AFS.

INDUSTRIAL ALTERNATIVE

Local Community. Redevelopment of the station property under this alternative would result in an increase in employment and population in the ROI compared to the No-Action Alternative. Reuse activities would increase employment levels by approximately 3,695 direct jobs and 5,945 secondary jobs by 2016, resulting in a total ROI employment of 617,068 by 2016. The Industrial Alternative would increase ROI population by approximately 772 persons over post-closure conditions by 2016.

Noticeable changes to on-station land uses would occur due to civilian redevelopment. Proposed on-station land uses generally would be compatible with each other. Proposed civilian land uses would not have land use controls; the development policies within the local jurisdictions likely would be revised to reflect the changes in land use as a result of this alternative. Visual impacts associated with redevelopment would be similar to the Proposed Action, and may improve over closure conditions by using appropriate planning and design.

The Industrial Alternative would incorporate no new entry points. Traffic associated with the Industrial Alternative would degrade the LOS on most roadways in the vicinity of Gentile AFS. No air or rail transportation impacts are expected under the Industrial Alternative.

Utility consumption associated with the Industrial Alternative would be less than the Proposed Action, and could be accommodated by existing and future system capacities. Effluent from reuse activities would be monitored to ensure conformance with regulatory requirements.

Hazardous Materials and Hazardous Waste Management. The quantities of hazardous materials utilized and hazardous wastes generated would be greater than under closure conditions. The responsibility for managing hazardous materials and hazardous wastes would shift from a single user to multiple, independent users. This may reduce the capability of responding to hazardous materials and hazardous waste spills, and would increase the regulatory burden. Compliance with RCRA would preclude unacceptable impacts.

Reuse activities are not expected to affect remediation under the IRP, which is proceeding according to CERCLA regulations. However, redevelopment of some properties may be delayed or land use restrictions may be required due to the extent and type of site contamination, and current and future IRP remediation activities. Based on the results of IRP investigations, the Air Force may, where appropriate, place limits on land reuse through deed restrictions on conveyances and use restrictions on leases. Prior to property disposal, existing USTs would be deactivated and removed. Any remediation/cleanup activities associated with contamination from leaking USTs would comply with the regulations set by the OBUST. Unused aboveground storage tanks would be purged and assessed, and remedial action would be taken, if necessary. Oil/water separators would be pumped, removed, and remedial action taken, if necessary. Appropriate precautions to avoid damage to storage tanks and distribution lines should be implemented during construction and operations. All PCB equipment and PCB-contaminated equipment would be removed from the station prior to closure. The Former Small Arms Firing Range will be surveyed and cleared, if necessary, prior to disposal. The Former Small Arms Firing Range will also undergo an environmental site characterization.

Asbestos that poses a health risk will be addressed prior to property disposal. Proper management of asbestos remaining in existing buildings will minimize the potential risk to human health and the environment. Demolition or renovation of structures with ACM would be subject to applicable regulations and NESHAP. Increased pesticide usage due to civilian reuse would be subject to FIFRA and state guidelines. The Commander's Residence, which had radon levels above recommended guidelines, would be demolished; no radon effects are expected. Recipients of facilities constructed during or prior to 1978 would be notified that lead-based paint may exist on the premises.

Natural Environment. The Industrial Alternative would result in effects on soils and water resources from ground disturbance associated with facility construction, renovations, demolition, and infrastructure improvements. There is an abundant water supply from groundwater sources in the ROI.

Air pollutant emissions generated by this alternative would be greater than the No-Action Alternative, but would still remain below federal standards.

Effects to biological resources would be minimal under the Industrial Alternative. Development could result in an impact to the West Branch of Little Beaver Creek (a potential wetland) in the southern section of the station. No cultural resources were identified at Gentile AFS.

NO-ACTION ALTERNATIVE

Local Community. The only Air Force activities associated with the No-Action Alternative would be caretaker maintenance of the station. This would generate approximately five direct and ten secondary jobs. Total employment in the ROI would reach 607,416 by 2016. Total ROI population would increase from 972,185 at closure to 1,018,752 at 2016. No effects on utilities or on road, air, or rail transportation are expected.

Hazardous Materials and Hazardous Waste Management. Small quantities of various types of hazardous materials and pesticides would be used for this alternative. All materials and waste would be managed and controlled by the Air Force Base Conversion Agency Operating Location (OL) team in accordance with applicable regulations. Storage tanks would be removed or maintained in place according to required standards. IRP site remediation would continue to occur at Gentile AFS, with the OL providing utilities support and security for these activities.

Natural Environment. This alternative would result in negligible impacts on air quality and biological resources. The No-Action Alternative would not impact geological resources, soils, water resources, or cultural resources relative to baseline conditions.

OTHER LAND USE CONCEPTS

No other independent proposals for Gentile AFS have been identified.

SUMMARY OF PUBLIC COMMENTS

The Draft EIS (DEIS) for disposal of Gentile AFS was made available for public review and comment in August 1995. The Air Force presented the findings of the DEIS at a public hearing held in Kettering, Ohio, on September 21, 1995. Public comments received both verbally at the public meeting and in writing during the response period have been reviewed and are addressed by the Air Force in Chapter 9.0 of this EIS. In addition, the text of the EIS itself has been revised, as appropriate, to reflect the concerns expressed in the public comments. The response to the comments in Chapter 9.0 indicate the relevant sections of the EIS that have been revised.

SUMMARY OF CHANGES FROM THE DEIS TO THE FINAL EIS

Based on more recent studies or comments from the public, the following sections of the EIS have been updated or revised:

- Minor land use changes were made to the Proposed Action (Section 2.2) and the Mixed Use Alternative (Section 2.3.1) to reflect revisions made to the community reuse plan.

- Sections 3.4.4 and 4.4.4, Biological Resources, have been revised to indicate U.S. Fish and Wildlife Service concurrence with Air Force findings that no threatened or endangered species occur at Gentile AFS.

- Sections 3.4.5 and 4.4.5, Cultural Resources, have been revised to indicate State Historic Preservation Officer concurrence with the findings of the Phase I Archaeological Survey and the Historic Building Inventory and Evaluation.

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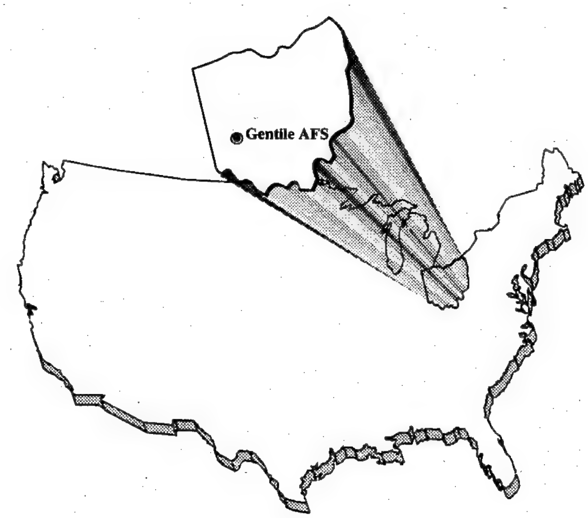

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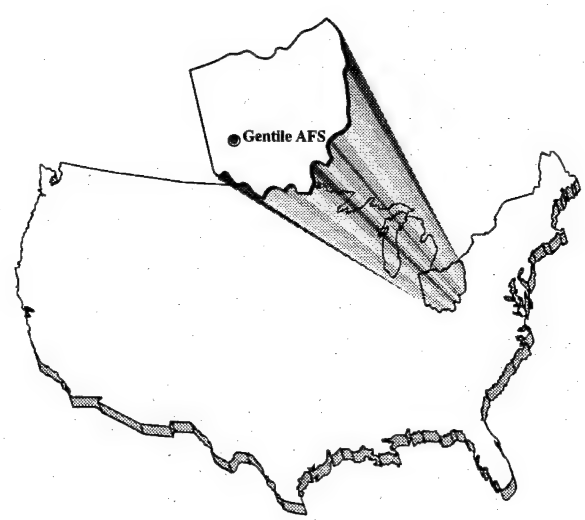


CHAPTER 1
PURPOSE OF AND NEED FOR ACTION

1.0 PURPOSE OF AND NEED FOR ACTION

This environmental impact statement (EIS) examines the potential for impacts to the environment as a result of the disposal of Gentile Air Force Station (AFS), Ohio, as well as with interim activities (e.g., interim outleases) that may be allowed by the Air Force before final disposal of the station. This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality (CEQ) regulations implementing NEPA. Appendix A presents a glossary of terms, acronyms, and abbreviations used in this document.

1.1 PURPOSE OF AND NEED FOR

Due to the changing international political scene and the resultant shift toward a reduction in defense spending, the Department of Defense (DOD) must realign and reduce its military forces pursuant to the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law [P.L.] 101-510, Title XXIX). DBCRA established new procedures for closing or realigning military installations in the United States.

DBCRA also established an independent Defense Base Closure and Realignment Commission (hereafter "Commission") to review the Secretary of Defense's base closure and realignment recommendations. After reviewing these recommendations, the 1993 Commission forwarded its recommended list of base closures and realignments to the President, who accepted the recommendations and submitted them to Congress on July 2, 1993. Since Congress did not disapprove the recommendations within the time period provided under DBCRA, the recommendations have become law.

Because Gentile AFS was on the Commission's list, the decision to close the station is final. Gentile AFS is scheduled to close in December 1996.

The primary tenant organization at Gentile AFS is the Defense Logistics Agency (DLA). To fulfill the requirement of reducing defense expenditures, the DLA plans to close the Defense Electronics Supply Center (DESC) at Gentile AFS and relocate it at the Defense Construction Supply Center in Columbus, Ohio. The Air Force would then dispose of excess and surplus real property and facilities at Gentile AFS. DBCRA requirements relating to disposal of excess and surplus property include:

- Environmental restoration of the property as soon as possible with funds made available for such restoration

- Consideration of the local community's reuse plan prior to Air Force disposal of the property

- Compliance with specific federal property disposal laws and regulations.

The Air Force action, therefore, is to dispose of Gentile AFS property and facilities. Usually, this action is taken by the Administrator of the General Services Administration (GSA). However, DBCRA required the Administrator to delegate to the Secretary of Defense the authorities to utilize excess property, dispose of surplus property, convey airport and airport-related property, and determine the availability of excess or surplus real property for wildlife conservation purposes. The Secretary of Defense has since redelegated these authorities to the respective military service secretaries.

1.2 DECISIONS TO BE MADE

The purpose of this EIS is to provide information for interrelated decisions concerning the disposition of Gentile AFS. The EIS is to provide the decision maker and the public the information required to understand the future potential environmental consequences of disposal as a result of reuse options at Gentile AFS.

After completion of this EIS, the Air Force will issue a Record of Decision (ROD) on the Disposal of Gentile AFS. The ROD will specify the following:

- The methods of disposal to be followed by the Air Force
- The terms and conditions of disposal.

The methods of disposal granted by the Federal Property and Administrative Services Act of 1949 and the Surplus Property Act of 1944, and implemented in the Federal Property Management Regulations (FPMR) are:

- Transfer to another federal agency
- Public benefit conveyance to an eligible entity
- Negotiated sale to a public body for a public purpose
- Competitive sale by sealed bid or auction.

In addition, Section 2903 of the 1994 Defense Authorization Act authorizes the Secretary of Defense to transfer closure property at or below the estimated fair market value to a recognized Local Redevelopment Authority (LRA) for economic development purposes.

The EIS considers environmental impacts of the Air Force's disposal of the installation using all of the above-mentioned procedures and by portraying a variety of potential land uses to cover reasonable future uses of the property and facilities by others. Several alternative scenarios were used to group reasonable land uses and to examine the environmental effects of redevelopment of Gentile AFS. This methodology was employed because, although the disposal will have few, if any, direct effects, future use and

control of use by others will create indirect effects. This EIS, therefore, seeks to analyze reasonable redevelopment scenarios to determine the potential indirect environmental effects of Air Force decisions.

1.3 DISPOSAL PROCESS AND REUSE PLANNING

DBCRA requires compliance with NEPA (with some exceptions) in the implementation of the base closures and realignments. Among the issues that were excluded from NEPA compliance are:

- The selection of installations for closure or realignment
- Analysis of closure impacts.

The Air Force goal is to dispose of Gentile AFS property through transfer and/or conveyance to other government agencies or private parties. The Proposed Action in the EIS reflects the community's goal for station reuse, which is to redevelop the disposal property as an industrial and commercial complex in order to attract new industries and stimulate job growth in the region.

The Air Force has based the Proposed Action on plans provided by the DESC Reuse Committee in March 1995 for the purpose of conducting the required environmental analysis. The Air Force also developed additional reasonable alternatives in order to provide the basis for a broad environmental analysis, thus ensuring that all reasonably foreseeable impacts resulting from potential reuse have been identified and the decision maker has multiple options regarding ultimate property disposition. Subject to the terms of transfer or conveyance, the recipients of the property, planning and zoning agencies, and elected officials will ultimately determine the reuse of the property. In addition to the Proposed Action, three alternatives have been identified that include a Mixed Use Alternative, an Industrial Alternative, and a No-Action Alternative that would not involve reuse. DOD has proposed Gentile AFS as the site of a Defense Finance and Accounting Service (DFAS) satellite office in an effort to consolidate approximately 300 offices scattered at military installations nationwide to 25 locations. Therefore, a DFAS component is included in all reuse plans analyzed in the EIS.

Generally, the GSA Administrator has authority to dispose of excess and surplus real property belonging to the federal government. With regard to closure bases and stations, however, the DBCRA requires the GSA Administrator to delegate disposal authority to the Secretary of Defense. The FPMR, which govern property disposal methods associated with base closure, allow the Secretary of Defense to dispose of closure property by transfer to another federal agency, by public benefit conveyance, by negotiated sale to state or local government, and by public sale at auction or sealed bid. Additionally, closure property may be transferred as an economic development conveyance at or below the estimated fair market value in accordance with Section 2903 of the 1994 Defense Authorization Act.

These methods, or a combination of them, could be used to dispose of property at Gentile AFS.

Property transfers are usually made by deed when the property is legally suitable for conveyance. However, for some parcels, near-term deed conveyance is not lawful until the requirements of Section 120 (h)(3) of the Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA) are met. The Air Force attempts to support the community's rapid redevelopment of the base by transferring parts of such property by long-term leases in furtherance of eventual deed conveyance. Such leases are accompanied by a contractual commitment between the parties for the Air Force to convey deed title to the property as soon as it can legally do so. Land reuses, whether by short- or long-term leases or by deed, and their resulting environmental impacts, generally are not affected by the form of conveyance. However, the differences in the legal relationships of the parties are of significant concern to the Air Force. Where the Air Force is the landlord, it is potentially exposed to legal liability to third parties or to applicable regulatory enforcement actions resulting from improper environmental conditions or actions occurring on the leased property by its tenants; thus, the Air Force has incentive to assure that its lessees comply with all legal regulatory requirements as well as the environmentally protective restrictive provision of the lease. The contractual nature of lease restrictions makes them easier and faster to enforce than deed covenants.

Provisions of the DBCRA and FPMR require that the Air Force first notify other DOD departments that Gentile AFS is scheduled for disposal. Federal screening for Gentile AFS property ended March 15, 1994; no responses were received.

Pursuant to the McKinney Act (42 U.S. Code [U.S.C.] §11411), the Air Force was required to provide the U.S. Department of Housing and Urban Development (HUD) with information regarding properties being disposed of at closing installations. HUD would then make a determination about the suitability of these properties for homeless assistance programs, and report the suitability and potential availability of those installation facilities in the Federal Register. Although the Base Closure Community Redevelopment and Homeless Assistance Act of 1994 amended DBCRA of 1990 by eliminating the McKinney Act's application to base closures, the LRA has chosen to proceed with the process outlined under the McKinney Act.

Generally, federal agencies are required to report to the Secretary of HUD information regarding unutilized, under utilized, excess, and surplus federal real properties that may be suitable for use as facilities to assist the homeless. These properties may be made available to states, units of local government, and nonprofit organizations operating as "homeless providers."

HUD will review the list of properties to determine their suitability to meet homeless needs. These properties will be advertised by HUD in the Federal

Register and properties determined to be suitable will be held only for the purposes of assisting the homeless for a period of 60 days from the date of the Federal Register publication, during which time, homeless providers will be able to express written interest to the U.S. Department of Health and Human Services (HHS) in the properties contained in the list published in the Federal Register. This 60-day period is also effective for each subsequent publication of the property in the Federal Register.

HHS must receive completed applications for McKinney Act properties within 90 days from the date the expression of interest was received. HHS then has to make a determination of approval within 25 days of receiving the completed application. If approved, the property will be assigned to HHS from the Air Force when it becomes surplus. HHS will then transfer the property, at no cost, to the approved homeless provider.

As provided in the National Defense Authorization Act of Fiscal Year (FY) 1994 (P.L. 103-160), the LRA shall have 1 year from the following time periods to express an interest to reuse property that is not required to provide assistance to the homeless: (1) 1 year from the first day after the 60-day advertisement period, if there are no expressions of interest by homeless providers; (2) 1 year from the first day after the 90-day publication period, if no application is received by HHS; and (3) 1 year from the date an application is rejected by HHS. If the LRA does not express interest to reuse this property, the property will be made available for use to assist the homeless under Title V of 42 U.S.C. §11411, the Stewart B. McKinney Homeless Assistance Act.

Prior to making property available for use to assist the homeless, the Air Force may consider other federal uses and other important national needs. In deciding the disposition of surplus property, a priority of consideration will be given to uses that assist the homeless, unless it is determined that a competing request for the property that serves one of the public benefits specified under 40 U.S.C. §484(k) is so meritorious and compelling as to outweigh the needs of the homeless.

The screening period for the McKinney Act at Gentile AFS closed on July 6, 1994. No interest in Gentile AFS facilities was expressed during the screening period and no other requests have been received.

Native American tribes have potential statutory rights relating to both "excess" and "surplus" federal real property. Excess real property may be transferred to the Department of the Interior (DOI) pursuant to 40 U.S.C. §483(a)(1) under the following three conditions: (1) DOI requests the property; (2) Air Force approves the DOI request based on an evaluation of criteria contained in the FPMR at 41 Code of Federal Regulations (CFR) Part 101-47; and (3) DOI pays fair market value for the land or obtains a fair market value waiver from the Office of Management and Budget. Former reservation property that was utilized for military basing purposes may be

transferred to the Secretary of the Interior, pursuant to 40 U.S.C. §483(a)(2), after the property becomes excess to the needs of DOD.

Under the provisions of the Indian Self Determination Act, the Secretary of the Interior may contract with a tribe to execute certain functions of the DOI in providing services to the members of the tribe. For the execution of these contracts, the tribe may use available federal facilities under the control of the DOI. Moreover, the DOI may request the transfer of excess or surplus federal real or personal property to DOI for these purposes (25 U.S.C. §450j(f)(3)).

Surplus federal real property may be transferred to Native American tribes under one of the public benefit conveyance authorities if the tribe is eligible for such public benefit or reduced cost transfer. Notwithstanding the aforementioned disposal methods, Native American tribes may also acquire surplus federal real property by public sale much like any other private entity.

The Secretary of the Air Force has full discretion in determining how the Air Force will dispose of the property. DBCRA requires the Air Force to comply with federal property disposal laws and federal property management regulations (41 CFR 101-47). The military services were authorized to issue additional regulations, if required, to implement their delegated authorities and the Air Force has issued supplemental regulations 41 CFR 132. Another provision of the Act requires the services to consult with the State Governor and heads of local governments or equivalent political organizations for the purpose of considering any plan for the use of such property by the local community concerned. Accordingly, the Air Force is working with state authorities and the DESC Reuse Committee to meet this requirement.

In some cases, compliance with environmental laws regarding environmental cleanup may delay reuse of some parts of the station. Until property can be disposed of, the Air Force may execute interim or long-term leases to allow reuse to begin as quickly as possible. The Air Force would structure the leases to provide the lessees with maximum control over the property, consistent with the terms of the final disposal. Restrictions may be necessary to ensure protection of human health and the environment, and to allow implementation of required remedial actions. Environmental analysis in the EIS encompasses those possible interim or long-term leasing decisions. In addition, the DFAS may use this document to tier more site-specific environmental analysis to fulfill their NEPA requirements for establishing a satellite office at Gentile AFS.

1.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

NEPA established a national policy to protect the environment and ensure that federal agencies consider the environmental effects of actions in their decision making. The CEQ is authorized to oversee and recommend national policies to improve the quality of the environment, and has published

regulations that described how NEPA should be implemented. The CEQ regulations encourage federal agencies to develop and implement procedures that address the NEPA process in order to avoid or minimize adverse effects on the environment. Air Force Instruction (AFI) 32-7061, Environmental Impact Analysis Process (EIAP), addresses implementation of NEPA as part of the Air Force planning and decision-making process.

NEPA, CEQ regulations, and AFI 32-7061 provide guidance on the types of actions for which an EIS must be prepared. Once it has been determined that an EIS must be prepared, the proponent must publish a Notice of Intent (NOI) to prepare an EIS. This formal announcement signifies the beginning of the scoping period, during which the major environmental issues to be addressed in the EIS are identified. A Draft EIS (DEIS) is prepared, which includes the following:

- A statement of the purpose of and need for the action
- A Description of the Proposed Action and alternatives, including the No-Action Alternative
- A description of the environment that would be affected by the Proposed Action and alternatives
- A description of the potential environmental consequences of the Proposed Action and alternatives and potential mitigation measures.

The DEIS is filed with the U.S. Environmental Protection Agency (EPA), and is circulated to the interested public and government agencies for a period of at least 45 days for review and comment. During this period, a public hearing will be held so that the proponent can summarize the findings of the analysis and receive input from the affected public. At the end of the review period, all substantive comments received must be addressed. A Final EIS (FEIS) is produced, which contains responses to comments as well as changes to the document, if necessary.

The FEIS is then filed with the U.S. EPA and distributed in the same manner as the DEIS. Once the FEIS has been available for at least 30 days, the Air Force may publish its ROD for the action.

1.4.1 Scoping Process

The scoping process identifies the significant environmental issues relevant to disposal, and provides an opportunity for public involvement in the development of the EIS. The NOI (Appendix B) to prepare an EIS for the disposal of Gentile AFS was published in the Federal Register on October 29, 1993. Notification of public scoping was also made through local media, as

well as through letters to federal, state, and local agencies and officials, and interested groups and individuals.

The scoping period for the disposal of Gentile AFS began on October 29, 1993. A public meeting was held on September 14, 1994, at the Kettering City Hall, Kettering, Ohio, to solicit comments and concerns from the general public on the disposal of Gentile AFS. Representatives of the Air Force presented an overview of the meeting's objectives, agenda, and procedures, and described the process and purpose for the development of a disposal EIS. In addition to verbal comments, written comments were received during the scoping process. These comments, as well as information from an initial scoping meeting held November 17, 1993, experience with similar programs, and NEPA requirements were used to determine the scope and direction of studies/analysis to accomplish this EIS.

1.4.2 Public Comment Process

The DEIS was made available for public review and comment in August 1995. Copies of the DEIS were made available for review in local libraries and provided to those requesting copies (Appendix C). At a public hearing held on September 21, 1995, the Air Force presented the findings of the DEIS and invited public comments. All comments were reviewed and addressed, when applicable, and have been included in their entirety in this document. Responses to comments offering new or changes to data and questions about the presentation of data are also included. Comments simply stating facts or opinions, although appreciated, did not require specific responses. Chapter 9.0 Public Comments and Responses, more thoroughly describes the comment and response process.

1.5 CHANGES FROM THE DEIS TO THE FEIS

The text of this EIS has been revised, when appropriate, to reflect concerns expressed in public comments. These changes range from typographical corrections to amendments of reuse plans. The responses to the comments indicate the relevant sections of the EIS that have been revised. The major comments received on the DEIS were:

- Comparison to preclosure conditions should be made
- Reuse alternatives need to be flexible in siting land uses
- Depending on the type of industrial uses, noise could be an issue
- Current discharge permit should be updated.

Based on more recent studies and/or comments received, the following sections of the EIS have been updated or revised:

- In Chapter 2.0, minor land use changes have been made to the Proposed Action and Mixed Use Alternative to reflect revisions made to the community reuse plan.

- Sections 3.4.4 and 4.4.4, Biological Resources, have been revised to indicate U.S. Fish and Wildlife Service (USFWS) concurrence with Air Force findings that no threatened or endangered species occur at Gentile AFS.

- Sections 3.4.5 and 4.4.5, Cultural Resources, have been revised to indicate State Historic Preservation Officer (SHPO) concurrence with the findings of the Phase I Archaeological Survey and the Historic Building Inventory and Evaluation.

1.6 ORGANIZATION OF THIS EIS

This EIS is organized into the following chapters and appendices: Chapter 2.0 provides a description of the Proposed Action and reasonable alternatives to the Proposed Action for reuse of Gentile AFS property. Chapter 2.0 also briefly discusses alternatives eliminated from further consideration. Finally, Chapter 2.0 provides a comparative summary of the effects of the Proposed Action and alternatives with respect to effects on the local community and the natural environment. Chapter 3.0 presents the affected environment under the baseline conditions of station closure, providing a basis for analyzing the impacts of the Proposed Action and alternatives. When needed for analytical comparisons, a preclosure reference is provided for certain resource areas. It describes a point in time at or near the closure announcement, and depicts active station conditions. The results of the environmental analysis are presented in Chapter 4.0 and form the basis for the summary table at the end of Chapter 2.0. Chapter 5.0 lists individuals and organizations consulted during the preparation of the EIS; Chapter 6.0 provides a list of the document's preparers; Chapter 7.0 contains references; Chapter 8.0 contains an index; and Chapter 9.0 contains the public comments and responses to the DEIS.

In addition to the main text, the following appendices are included in this document:

- Appendix A - a glossary of terms, acronyms, and abbreviations used in this document

- Appendix B - the NOI to prepare this disposal EIS

- Appendix C - a list of individuals and organizations who were sent a copy of the DEIS

- Appendix D - an Installation Restoration Program (IRP) bibliography

- Appendix E - a description of the methods used to evaluate the impacts of station reuse on resources of the local community and the environment

- Appendix F - a list of environmental permits held by Gentile AFS
- Appendix G - biological resources
- Appendix H - air emissions inventory for Gentile AFS
- Appendix I - agency letters and consultation
- Appendix J - influencing factors and environmental impacts by land use category.

1.7 RELATED ENVIRONMENTAL DOCUMENTS

The environmental documents listed below have been or are being separately prepared and address environmental issues at Gentile AFS. These documents provided supporting information for the environmental analysis.

- Basewide Environmental Baseline Survey for Gentile AFS
- IRP Bibliography (Appendix D).

1.8 FEDERAL PERMITS, LICENSES, AND ENTITLEMENTS

Representative federal permits, licenses, and entitlements that may be required of recipients of Gentile AFS for purposes of redevelopment are presented in Table 1.8-1. This table is presented for illustrative purposes only and does not include state or local permits, licenses, or entitlements that may be required.

Table 1.8-1. Representative Federal Permits, Licenses, and Entitlements Potentially Required for Reusers or Developers of Disposed Station Property

Page 1 of 2

Federal Permit, License, or Entitlement	Typical Activity, Facility, or Category of Persons Required to Obtain the Federal Permit, License, or Entitlement	Authority	Regulatory Agency
Title V permit under the CAA	Any major source (source that emits more than 100 tons per year of criteria pollutant in non-attainment area for that pollutant or is otherwise defined in Title I of CAA as a major source); affected sources as defined in Title IV of CAA; sources subject to Section 111 regarding New Source Performance Standards; sources of air toxics regulated under Section 112 of CAA; sources required to have new source or modification permits under Parts C or D of Title I of CAA; and any other source designated by U.S. EPA regulations.	Title V of CAA as amended by the 1990 CAA Amendments	U.S. EPA; Ohio EPA
NPDES permit	Discharge of pollutant from any point source into waters of the United States.	Section 402 CWA, 33 U.S.C. §1342	U.S. EPA; Ohio EPA
Section 404 (Dredge and Fill) Permit	Any project activities resulting in the discharge of dredged or fill material into bodies of water, including wetlands, within the United States.	Section 404 CWA, 33 U.S.C. §1344	U.S. Department of Defense - Army Corps of Engineers, in consultation with U.S. EPA
Hazardous waste TSDF permit	Owners or operators of a new or existing hazardous waste TSDF.	RCRA, as amended; 42 U.S.C. §6901; 40 CFR 270	U.S. EPA; Ohio EPA

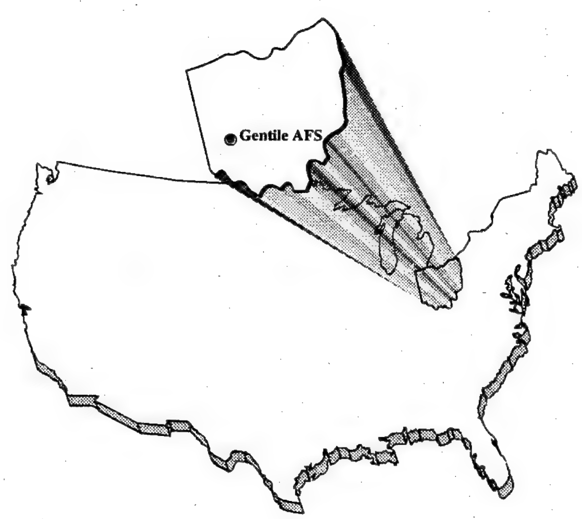
CAA = Clean Air Act
CFR = Code of Federal Regulations
CWA = Clean Water Act
EPA = Environmental Protection Agency
NPDES = National Pollutant Discharge Elimination System
RCRA = Resource Conservation and Recovery Act
TSDF = Treatment, Storage, and Disposal Facility
U.S.C. = U.S. Code

Table 1.8-1. Representative Federal Permits, Licenses, and Entitlements Potentially Required for Reusers or Developers of Disposed Station Property

Page 2 of 2

Federal Permit, License, or Entitlement	Typical Activity, Facility, or Category of Persons Required to Obtain the Federal Permit, License, or Entitlement	Authority	Regulatory Agency
U.S. EPA identification number	Generators or transporters (off-station transport) of hazardous waste.	40 CFR 262.10 (generators); 40 CFR 263, Subpart B (transporters)	U.S. EPA
Archaeological Resources Protection Act permit	Excavation and/or removal of archaeological resources from public or Native American lands and carrying out activities associated with such excavation and/or removal.	Archaeological Resources Protection Act of 1979, 16 U.S.C. §470cc	U. S. Department of the Interior - National Park Service
Endangered Species Act Section 10 permit	Taking endangered or threatened wildlife species; engaging in certain commercial trade of endangered or threatened plants or removing such plants on property subject to federal jurisdiction.	Section 10 of Endangered Species Act, 16 U.S.C. §1539; 50 CFR 17 Subparts C,D,F, and G	U. S. Department of the Interior - Fish and Wildlife Service

CFR = Code of Federal Regulations
EPA = Environmental Protection Agency
U.S.C. = U.S. Code



CHAPTER 2
DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section describes the Proposed Action, two reasonable alternatives to the Proposed Action, and the No-Action Alternative. In addition, potential public benefit transfers of Gentile AFS properties and facilities from the Air Force to other federal agencies are described, as are independent reuse options that are not part of a complete reuse plan. The potential environmental impacts of the Proposed Action and reuse alternatives are summarized in table form.

An Air Force Base Conversion Agency (AFBCA) Operating Location (OL) has been established at Gentile AFS. The responsibilities of the OL include coordinating post-closure activities with the active force closure activities, overseeing the establishment of a caretaker force to maintain Air Force-controlled properties after closure, and serving as the Air Force local liaison to community reuse groups until lease termination, title surrender, or disposal (as appropriate) of the Air Force-controlled property has been completed. For the purposes of environmental analysis, the OL was assumed to consist of five direct employees at the time of closure. The OL, as used in this document, may refer to either the AFBCA or supportive maintenance personnel.

In some cases, contractor organizations (i.e., grounds maintenance) may have distinct responsibilities. For example, under the No-Action Alternative, the nonfederal personnel would be responsible for the management and disposition of their own hazardous materials and waste. The OL would be responsible for inspection and oversight to ensure that hazardous substance management practices on Air Force-controlled property are in compliance with pertinent regulations.

In order to address the range of potential environmental impacts of disposal and reuse, a Proposed Action and two conceptual reuse alternatives have been developed in addition to the No-Action Alternative:

- The community plan is the **Proposed Action** and primarily centers around industrial and commercial uses. The plan also incorporates areas of public facilities/recreation and federal land uses that include federal and other entities.

- The **Mixed Use Alternative** focuses on industrial, commercial, and public facilities/recreation reuses. The remainder of the station would be for residential and federal use.

- The **Industrial Alternative** focuses on industrial and public facilities/recreation reuse. Other land uses would include commercial, residential, and federal.

- The **No-Action Alternative** would result in the station being placed in caretaker status. Only maintenance activities would take place on the station.

In order to accomplish impact analysis, a set of general assumptions was made. These assumptions include employment and population changes arising from implementation of each reuse plan, consistent land use designations for similar reuse options, proportion of ground disturbance anticipated for each land use, transportation and utility effects of each proposal as a function of proposed land use development and employment, and anticipated phasing of the various elements of each reuse plan (as measured at the closure baseline, and at the baseline plus 5, 10, and 20 years). Details regarding the generation of these assumptions are found in Appendix E, Methods of Analysis. Specific assumptions developed for individual reuse plans are identified in the discussion of each proposal, within Sections 2.2 and 2.3.

During the development of alternatives addressed in the EIS, the Air Force considered the compatibility of future land uses with current site conditions that may restrict reuse activities to protect human health and the environment. These conditions include potential contamination from past releases of hazardous substances and Air Force and DLA efforts to remediate the contamination under the IRP. IRP remediation at Gentile AFS and other environmental studies may result in lease/deed restrictions that limit reuse options at certain locations within the station. Additionally, the Air Force will, if necessary, retain access rights to these sites to implement IRP remediation (e.g., temporary easement for access to monitoring wells).

Within this EIS, all property inside the station boundary is discussed as on-station property. All other public and private property in the region is referred to as off-station property. The alternatives developed for the environmental analysis include reuse of all on-station property. All acreages used in this document are approximate.

2.2 DESCRIPTION OF PROPOSED ACTION

Section 2905(b)(2)(E) of DBCRA requires the Air Force, as part of the disposal process, to consult with the applicable state governor and heads of local governments, or equivalent political organizations, for the purposes of considering any plan for the use of such property by the concerned local community. Air Force and DOD policy is to encourage timely community reuse planning by offering to use the community's plan for reuse or development of land and facilities as the Air Force's Proposed Action in the EIS.

Since Gentile AFS is located entirely within the jurisdiction of the city of Kettering, the city was declared by resolution as the local redevelopment authority. The Kettering City Council passed the declaration resolution on October 12, 1993. The City Manager then appointed the DESC Reuse Committee, which is composed of the City Manager and 18 members representing local entities such as Montgomery County, public economic development agencies, public utility companies, and the city of Kettering and its citizens. This committee is responsible for planning the civilian reuse and development of Gentile AFS, and for managing reuse activities.

In 1994, the DESC Reuse Committee contracted with a consulting firm to assess existing resources, opportunities and constraints, and market parameters for Gentile AFS, and to develop a plan for reuse of the station.

In March 1995, the DESC Reuse Committee, city of Kettering Planning Commission, and City Council approved the Final Gentile Station Reuse Plan (Woolpert Consultants, Inc., 1995). This plan for reuse addresses the following:

- Background and findings
- Preferred reuse plan and alternatives
- Implementation plan.

The Air Force has used this planning document to develop the Proposed Action for environmental analysis and to provide input to alternative reuse scenarios analyzed in this EIS.

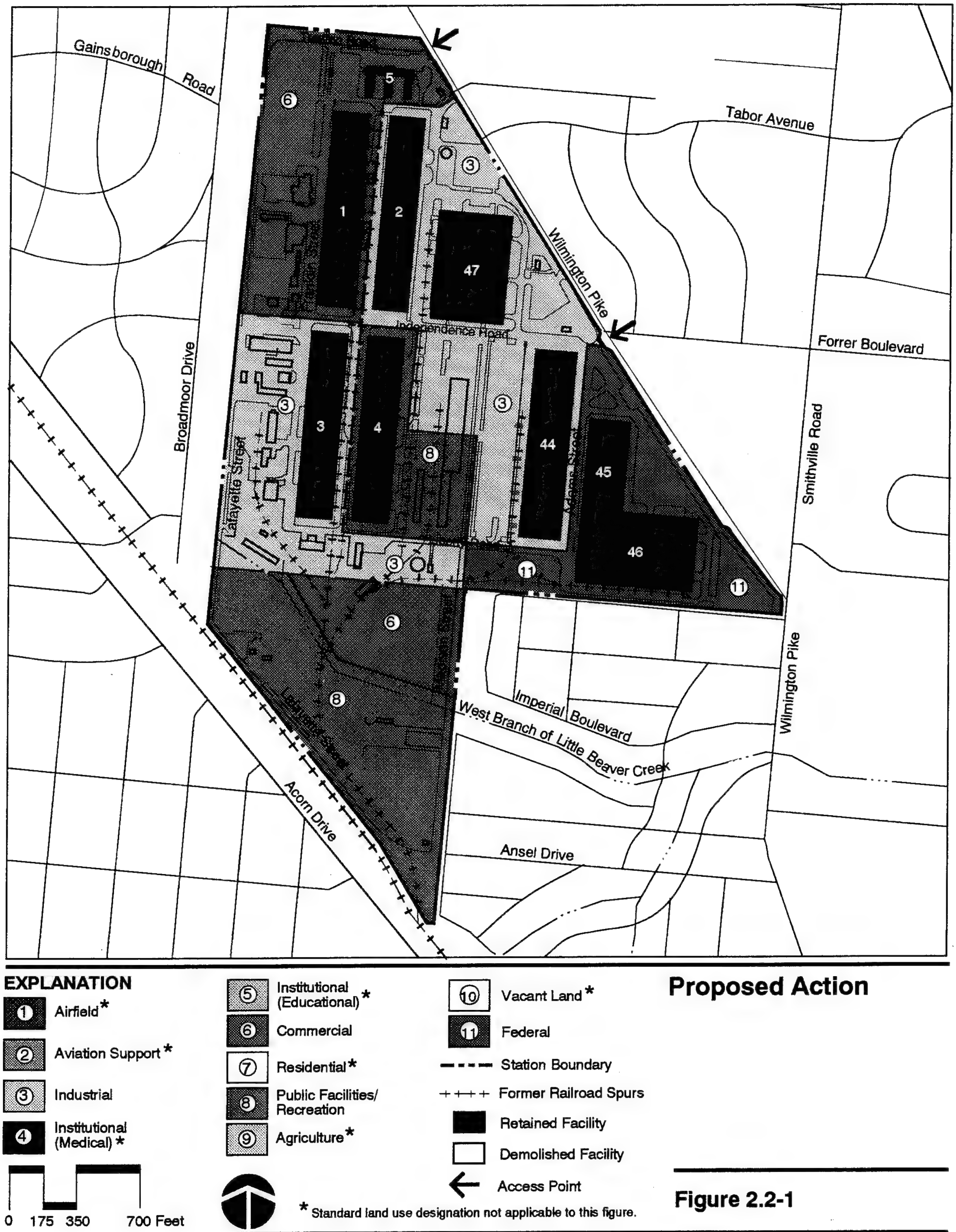
The land uses presented in the Proposed Action (Figure 2.2-1) provide a framework for development of a comprehensive reuse plan based on industrial and commercial office uses. Other uses would consist of public facilities/recreation and a federal reuse area. The acreage associated with each land use category is provided in Table 2.2-1.

Table 2.2-1. Land Use Acreage - Proposed Action

Land Use	Acreage
Industrial	67
Commercial	37
Public facilities/recreation	36
Federal	24
Total	164

The types of assumptions used to develop the Proposed Action include:

- Parcelization and land use acreage
- Building demolition



Proposed Action

Figure 2.2-1

- Phasing of plan for reuse beyond the first 5 years

- Projected utility use

- New building construction, and allocation of industrial and office uses.

The amount of potential development through 2016 including demolition, retention, and new construction for each land use under the Proposed Action is provided in Table 2.2-2. Eight major buildings (Buildings 1, 2, 3, 4, 44, 45, 46, and 47) and one small building (Building 5) would be rehabilitated. Other existing buildings (e.g., Commander's Residence, other minor structures) are proposed for demolition because of their condition, lack of marketability, or conflict with development plan recommendations (see Figure 2.2-1).

Table 2.2-2. Building Development - Proposed Action

Land Use	Existing Building Demolition	Existing Building Retention	New Building Construction
	(thousands of square feet of floor space)		
Industrial	154	789	76
Commercial	47	225	120
Public facilities/recreation	60	182	0
Federal	0	452	0
Total	261	1,648	196

The acreages within each land use assumed to be disturbed by new building construction, infrastructure improvements, or other operational activities under the Proposed Action are provided in Table 2.2-3 for three phases of development: 1996-2001, 2001-2006, and 2006-2016. The sections below describe activities associated with each land use category.

Table 2.2-3. Acres Disturbed - Proposed Action

	Acres Disturbed (by phase)			
Land Use	1996-2001	2001-2006	2006-2016	Total
Industrial	16	9	0	25
Commercial	9	11	0	20
Public facilities/recreation	4	1	1	6
Federal	24	0	0	24
Total	31	21	1	53

2.2.1 Industrial

The industrial area covers 67 acres, or 41 percent of the station property, and includes two parcels. One parcel in the northern and east-central portion of the station contains Buildings 2, 44, and 47. The second parcel in the west-central portion of the station includes Building 3. These parcels would be utilized for light industrial, manufacturing, and warehouse uses. Industrial development would begin in 1996 and would be complete by 2006.

2.2.2 Commercial

The commercial land area comprises 37 acres, or 23 percent of the station, in two parcels. The first parcel is in the northwest portion of the station and contains Buildings 1 and 5 that would be retained for commercial office reuse. A portion of Building 5 may be utilized as a day care facility for employees at the site. The second parcel, located in the south-central portion of the station, would be utilized for new office development that would be complete by 2006.

2.2.3 Public Facilities/Recreation

The public facilities/recreation area includes 36 acres, or 22 percent of the station property, in two parcels. The first parcel is in the center of the station and retains Building 4 that would be used by a public agency, such as the Montgomery County Board of Mental Retardation, for administrative space and light industrial production. Two metal warehouses would be demolished for parking, and no new building construction would occur. The other parcel includes the southern portion of the station, where existing recreation facilities would be utilized as a neighborhood park along the West Branch of Little Beaver Creek. Only pedestrian access from surrounding residential areas would be provided. The existing education center in the park would be demolished, and no new building construction would occur. Public facilities/recreation reuse would commence immediately after station reuse is initiated.

2.2.4 Federal

Federal land use would occupy 24 acres, or 14 percent of the station, in the east-central portion of the station. The parcel would be used for federal and other federal office uses. Federal is scheduled to utilize Building 45; however, the potential exists for expansion into adjacent Building 46. Federal reuse would commence immediately and would be complete by 2006.

2.2.5 Employment and Population

By 2016, the Proposed Action would generate site-related employment of 5,742 direct jobs (Table 2.2-4). There would be no on-station residential population associated with the Proposed Action.

Table 2.2-4. On-Station Employment and Population - Proposed Action

	Closure	2001	2006	2016
Direct employment	5	3,927	5,742	5,742
On-station population	0	0	0	0

2.2.6 Transportation

Existing access roads to station property would be closed except for Trenton Road and Forrer Boulevard entrances. Forrer Boulevard would be the main entrance; Trenton Road would be a truck and secondary entrance (see Figure 2.2-1). In addition, new turn lanes would be constructed at these two entrances. Based on land use and employment projections, the Proposed Action would generate an average of 16,950 vehicle trips daily by 2016.

2.2.7 Utilities

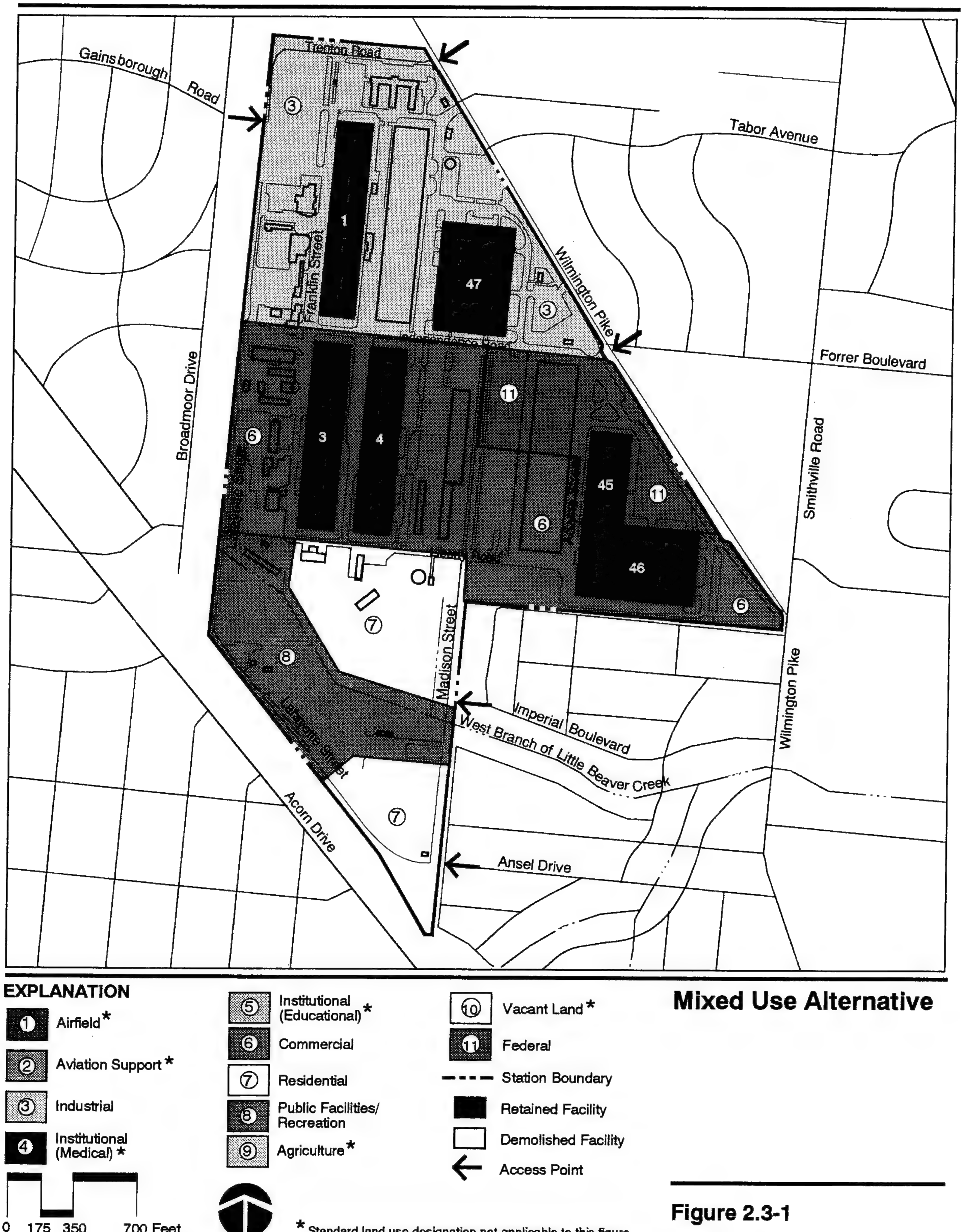
By 2016, the projected activities associated with the Proposed Action would generate the following on-station utility demands:

- Water - 0.22 million gallons per day (MGD)
- Wastewater - 0.18 MGD
- Solid waste - 21.1 tons per day
- Electricity - 85.7 megawatt hours (MWH) per day
- Natural Gas - 0.43 million cubic feet (MMCF) per day.

2.3 DESCRIPTION OF ALTERNATIVES

2.3.1 Mixed Use Alternative

The focus of the Mixed Use Alternative (Figure 2.3-1) is industrial, and commercial office uses. The remaining portions of station property would be developed for residential, public facilities/recreation and federal use. The total acreage for each land use category is shown in Table 2.3-1.



Mixed Use Alternative

Figure 2.3-1

Table 2.3-1. Land Use Acreage - Mixed Use Alternative

Land Use	Acreage
Industrial	51
Commercial	54
Residential	25
Public facilities/recreation	17
Federal	17
Total	164

The types of assumptions used to develop the Mixed Use Alternative include:

- Amounts and types of proposed land uses
- Anticipated construction/demolition
- Employment and population projections
- Areas disturbed by construction/demolition
- Phasing of plan for reuse
- Traffic generation and daily trip projections
- Utility requirements
- Proposed transportation access points.

The amount of development through 2016 including existing building demolition, retention, and new construction for each land use under the Mixed Use Alternative is provided in Table 2.3-2.

Table 2.3-2. Building Development - Mixed Use Alternative

Land Use	Existing Building Demolition	Existing Building Retention	New Building Construction
	(thousands of square feet of floor space)		
Industrial	271	446	0
Commercial	246	614	0
Residential	16	0	290
Public facilities/recreation	13	0	0
Federal	101	202	0
Total	647	1,262	290

Six major buildings (Buildings 1, 3, 4, 45, 46, and 47) would be rehabilitated (see Figure 2.3-1). The Mixed Use Alternative followed the methodology of the Proposed Action to categorize the reuse potential of existing buildings. The other major buildings were examined from a site-function perspective. Specifically, the need for adequate parking adjacent to major buildings leads to the recommendation for demolition of some of the buildings.

Table 2.3-3 summarizes acreages assumed to be disturbed by construction or other operational activities during each phase of development. The sections below describe activities associated with each land use category.

Table 2.3-3. Acres Disturbed - Mixed Use Alternative

	Acres Disturbed (by Phase)			
Land Use	1996-2001	2001-2006	2006-2016	Total
Industrial	19	0	0	19
Commercial	14	8	4	26
Residential	11	11	0	22
Public facilities/recreation	2	0	0	2
Federal	7	0	0	7
Total	53	19	4	76

2.3.1.1 Industrial. The proposed industrial land use area in the northern portion of the station covers 51 acres, or 31 percent of the station property. In this area Buildings 1 and 47 are retained to be utilized for light manufacturing and warehousing uses. Two other buildings in this area would be demolished. Industrial development would be complete by 2001.

2.3.1.2 Commercial. The commercial area includes 54 acres, or 33--percent of the station, in the central portion of the station. The commercial area includes Buildings 3, 4, and 46 to be retained for office space. Several small buildings would be demolished for vehicle parking. The warehouse (Building 44) west of Buildings 45 and 46, and two metal warehouses (Buildings 73 and 74) east of Building 4 would also be demolished for parking. No new buildings would be constructed and commercial development would be complete by 2016.

2.3.1.3 Residential. The residential land use area encompasses 25 acres, or 16 percent of the station, in two parcels. The first parcel, north of the West Branch of Little Beaver Creek, includes approximately 240 new multifamily housing units. The second parcel, in the southern portion of the station, would include 40 new single-family housing units. All existing buildings in the southern portion of the station would be demolished to allow for the new housing. The residential units would be occupied by 2006.

2.3.1.4 Public Facilities/Recreation. The public facilities/recreation area contains 17 acres, or 10 percent of the station property, in the southern portion of the station adjacent to the West Branch of Little Beaver Creek. This area would be used as a neighborhood park. Existing buildings in the proposed park would be demolished. Public facilities/recreation reuse would commence immediately and would be complete by 2001.

2.3.1.5 Federal. The federal land use area consists of 17 acres, or 10 percent of the station, in the east-central portion of the station. This area would be utilized for federal administrative offices. The warehouses (Building 44) west of Building 45 would be demolished for parking. Reuse would commence immediately and would be complete by 2001.

2.3.1.6 Employment and Population. By 2016, the Mixed Use Alternative would include a total site-related employment of 4,319 direct jobs (Table 2.3-4). A total of 700 persons would reside on station property.

Table 2.3-4. On-Station Employment and Population - Mixed Use Alternative

	Closure	2001	2006	2016
Direct employment	5	3,320	3,973	4,319
On-station population	0	350	700	700

2.3.1.7 Transportation. Four of the existing access points to the station property would be used (see Figure 2.3-1). In addition, one right-turn-only access from Wilmington Pike to the parking area east of Building 45 would be provided. One right-turn-only lane from this parking area would also be provided to Wilmington Pike. New access to the multifamily housing area would be provided at Imperial Boulevard. Based on land use and employment projections, this alternative would generate an average of 12,300 vehicle trips daily by 2016.

2.3.1.8 Utilities. By 2016, the projected activities associated with the Mixed Use Alternative would generate the following on-station utility demands:

- Water - 0.27 MGD
- Wastewater - 0.22 MGD
- Solid waste - 17.0 tons per day
- Electricity - 75.1 MWH per day
- Natural gas - 0.36 MMCF per day.

2.3.2 Industrial Alternative

The Industrial Alternative (Figure 2.3-2) focuses on industrial and public facilities/recreation reuses of Gentile AFS. Associated uses would include commercial office, residential, and federal. The total acreage for each land use category is shown in Table 2.3-5.

The types of assumptions developed in support of the analysis for the Industrial Alternative are the same as those used for the Mixed Use Alternative.

EXPLANATION

1 Airfield*
2 Aviation Support*
3 Industrial
4 Institutional (Medical)*
5 Institutional (Educational)*
6 Commercial
7 Residential
8 Public Facilities/ Recreation
9 Agriculture*
10 Vacant Land*
11 Federal
Station Boundary
Retained Facility
Demolished Facility
Access Point

0 175 350 700 Feet

* Standard land use designation not applicable to this figure.

Industrial Alternative

Figure 2.3-2

Table 2.3-5. Land Use Acreage - Industrial Alternative

Land Use	Acreage
Industrial	68
Commercial	20
Residential	6
Public facilities/recreation	53
Federal	17
Total	164

The amount of development through 2016 including existing building demolition, retention, and new construction for each land use under the Industrial Alternative is provided in Table 2.3-6. The Industrial Alternative followed the methodology used under the Proposed Action to categorize the reuse potential of existing buildings. To provide adequate parking, Buildings 73 and 74 would be demolished. Six major buildings (Buildings 1, 3, 4, 45, 46, and 47) and four small buildings (Buildings 26, 56, 75, and 110) would be rehabilitated (see Figure 2.3-2).

Table 2.3-6. Building Development - Industrial Alternative

Land Use	Existing Facility Demolition	Existing Facility Retention	New Facility Construction
	(thousands of square feet of floor space)		
Industrial	327	629	0
Commercial	100	250	0
Residential	0	0	35
Public facilities/recreation	100	200	0
Federal	101	202	0
Total	628	1,281	35

Table 2.3-7 summarizes acreages assumed to be disturbed by construction or other operational activities during each phase of development. The following sections describe activities associated with each land use category.

Table 2.3-7. Acres Disturbed - Industrial Alternative

	Acres Disturbed (by Phase)			
Land Use	1996-2001	2001-2006	2006-2016	Total
Industrial	21	7	0	28
Commercial	4	2	0	6
Residential	3	2	0	5
Public facilities/recreation	9	0	0	9
Federal	5	0	0	5
Total	42	11	0	53

2.3.2.1 Industrial. The industrial area covers 68 acres, or 42 percent of the station property, and comprises the northwest portion of the station. Buildings 1 and 47 would be utilized for light manufacturing. It is assumed that the water tower and pumphouse (Building 26) would be retained under this alternative for tenant use. Building 3 would be reused as a warehouse with an outdoor storage yard. One major building (Building 2) and 19 small buildings would be demolished. Industrial development would begin in 1996 and would be complete by 2006.

2.3.2.2 Commercial. The area proposed for commercial reuse covers 20 acres, or 12 percent of the station acreage, in the southeast portion of the station. Building 46 would be reused for commercial office space. The warehouse west of Buildings 45 and 46 would be demolished to provide for parking. Commercial development could begin soon after disposal of the property and would be complete by 2006.

2.3.2.3 Residential. The residential land use in the southern portion of the station encompasses 6 acres, or 4 percent of the station. Approximately 28 single-family housing units would be constructed. Development would be initiated immediately after closure and would be complete by 2006.

2.3.2.4 Public Facilities/Recreation. The proposed public facilities/ recreation area consists of 53 acres, or 32 percent of the station property. This area is in the southwest and central portion of the station. The reuse would be similar to that described in the Proposed Action. Buildings 73 and 74 would be demolished for parking. Buildings 56, 75, and 110 would be retained in the park and could be used for administrative offices or storage. Reuse would be initiated immediately after closure.

2.3.2.5 Federal. The federal land use area consists of 17 acres, or 10 percent of the station, and covers the east- central portion of the station. Building 45 would be utilized for federal administrative offices. The warehouses west of Building 45 would be demolished for parking. Reuse would commence immediately and would be complete by 2001.

2.3.2.6 Employment and Population. By 2016, the Industrial Alternative would generate a total of 3,712 direct jobs (Table 2.3-8). A total of 70 persons would reside on station property.

Table 2.3-8. On-Station Employment - Industrial Alternative

	Closure	2001	2006	2016
Direct employment	5	3,004	3,712	3,712
On-station population	0	35	70	70

2.3.2.7 Transportation. Three existing transportation access points to the station property would be utilized (see Figure 2.3-2). In addition, one right-turn-only access from Wilmington Pike to the parking area east of Building 45 would be provided. One right-turn-only lane from this parking area would also be provided to Wilmington Pike. Based on land use and employment projections, this alternative would generate an average of 9,400 vehicle trips daily by 2016.

2.3.2.8 Utilities. By 2016, the projected activities associated with the Industrial Alternative would generate the following on-station utility demands:

- Water - 0.17 MGD
- Wastewater - 0.13 MGD
- Solid waste - 14.5 tons per day
- Electricity - 64.7 MWH per day
- Natural gas - 0.32 MMCF per day.

2.3.3 No-Action Alternative

The No-Action Alternative would result in the federal government retaining ownership of the property after closure. The station property would not be put to further use after the closure of Gentile AFS, but would be preserved (i.e., placed in a condition intended to limit deterioration and ensure public safety). All station property would be placed in caretaker status. Caretaker activities would consist of station resource protection; grounds maintenance; existing utilities operations, as necessary; building care; and management of environmental cleanup. No other military activities would be performed on the property.

The future land uses and levels of maintenance would be as follows:

- Maintain structures to limit deterioration

- Isolate or deactivate utility distribution lines on station

- Provide limited maintenance of roads to ensure access

- Provide limited grounds maintenance of open areas to eliminate fire, health, and safety hazards.

Utility demand from continuing operations at the OL is projected to be:

- Water - 0.007 MGD
- Wastewater - 0.005 MGD
- Solid waste - 0.08 ton per day
- Electricity - 8.5 MWH per day
- Natural gas - .0005 MMCF per day.

2.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

The community's reuse proposal submitted in March 1995 for reuse of Gentile AFS was addressed as the Proposed Action. In addition, the Air Force identified potential reuse alternatives that would be reasonable for Gentile AFS. In developing these alternatives, the Air Force utilized data from the community's reuse proposals' alternatives. No other reuse proposals have been identified.

2.5 INTERIM USES

Interim uses include predisposal short-term uses of selected station facilities and property. Predisposal interim uses are conducted under lease agreements with the Air Force. The terms and conditions of each lease would be arranged to ensure that the predisposal interim uses do not prejudice future disposal and reuse plans of the station. The continuation of interim uses beyond disposal would be arranged through agreements with the new property owner(s). If an interim use becomes viable for Gentile AFS, a use substantially similar to those analyzed in this EIS would be authorized without further environmental analysis. In some cases, separate environmental documentation to cover the action may be required.

A closure baseline representing station conditions at the point of closure is used for the environmental analysis. Predisposal interim uses are not considered in the baseline conditions used for the environmental analysis because the baseline captures the future conditions at the point of closure and does not presuppose a decision of continued interim uses at that time.

2.6 OTHER FUTURE ACTIONS IN THE REGION

There is a single-family residential development consisting of approximately 35 acres and 113 units being developed immediately southeast of Gentile AFS that could result in cumulative impacts. The main access to this development is from Wilmington Pike near the Smithville Road intersection. Another entrance is located on the east side of the development.

2.7 COMPARISON OF ENVIRONMENTAL IMPACTS

A summary comparison of the influencing factors and environmental impacts, along with their potential mitigation, for each biophysical resource affected by the reuse alternatives over the 20-year study period is presented in Tables 2.7-1 and 2.7-2. Impacts for air quality are summarized over a 10-year period due to the speculative nature of predicting pollutant emissions and concentrations far into the future under changing regulatory and climatic conditions (see Section 4.4.3). Influencing factors are nonbiophysical elements such as population, employment, land use, aesthetics, public utility systems, and transportation networks that directly impact the environment.

These activities have been analyzed to determine their effects on the environment. Impacts to the environment are briefly described in the summary and discussed in detail in Chapter 4.0.

Table 2.7-1. Summary of Reuse-Related Factors Compared to No-Action Alternative

Factor	Proposed Action			Mixed Use Alternative			Industrial Alternative			No-Action Alternative[b]
	2001	2006	2016	2001	2006	2016	2001	2006	2016	
Ground Disturbance (acres, by phase)[a]	31	21	1	53	19	4	42	11	0	0
Direct Employment[a]	3,875	5,737	5,737	3,315	3,968	4,314	3,059	3,707	3,707	5
Secondary Employment	6,284	8,945	8,945	5,479	6,234	6,635	4,784	5,945	5,945	No change
Population Increase	745	1,119	1,187	634	775	889	577	726	772	No change
Traffic (average daily vehicular traffic)[a]	11,300	16,900	16,900	8,300	11,250	12,250	7,400	9,350	9,350	50
Water Consumption (MGD)	0.20	0.29	0.30	0.23	0.31	0.32	0.17	0.22	0.22	No change
Wastewater Treatment (MGD)	0.16	0.24	0.25	0.19	0.26	0.27	0.14	0.17	0.18	No change
Solid Waste Disposal (tons/day)	15.53	23.05	23.17	14.39	17.41	18.56	12.75	15.80	15.88	No change
Electrical Consumption (MWH/day)	64.94	97.29	98.00	66.44	80.58	84.36	56.52	72.22	72.70	No change
Natural Gas Consumption (MMCF/day)	0.37	0.55	0.55	0.36	0.43	0.46	0.31	0.40	0.40	No change

Notes: Values shown represent increases over the projected No-Action Alternative in each year as a result of implementing that alternative.
(a) Values represent increases for on-station activities only.
(b) The No-Action Alternative values summarize influencing factors relative to the closure baseline conditions.
MGD = million gallons per day
MMCF = million cubic feet
MWH = megawatt-hours

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 1 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Local Community				
• Land Use and Aesthetics	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	Civilian redevelopment of 140 acres. Federal use of 24 acres. Proposed reuses would not have land use controls. Visual quality could be improved by proposed development activities	Civilian redevelopment of 147 acres. Federal use of 17 acres. Proposed reuses would not have land use controls. Impacts to visual quality could be improved by proposed redevelopment activities	Civilian redevelopment of 147 acres. Federal use of 17 acres. Proposed reuses would not have land use controls. Impacts to visual quality could be improved by proposed redevelopment activities	No change in on-station land use. Vacant land could enhance visual quality in the long term
	• Mitigations:	• Mitigations:	• Mitigations:	
	None required	None required	None required	
	Use of landscape screening	Use of landscape screening	Use of landscape screening	
• Transportation	• Impacts:	• Impacts:	• Impacts:	• Impacts:
	Increase of 16,900 daily vehicular trips. One access point eliminated. Some roadway segments would maintain unacceptable LOS	Increase of 12,250 daily vehicular trips. Two new access points provided. Some roadway segments would maintain unacceptable LOS	Increase of 9,350 daily vehicular trips. No additional access points provided. Some roadway segments would maintain unacceptable LOS	No changes in station-related traffic
	• Mitigations:	• Mitigations:	• Mitigations:	
	The city of Kettering could implement road improvements to raise LOS to meet transportation planning criteria	The city of Kettering could implement road improvements to raise LOS to meet transportation planning criteria	The city of Kettering could implement road improvements to raise LOS to meet transportation planning criteria	

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
LOS = level of service

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 2 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Local Community (Continued)				
• Utilities Use	• Impacts: Current systems able to accommodate increased utility demands. Interconnection of utility systems required to provide service to on-station users. • Mitigations: None required	• Impacts: Current systems able to accommodate increased utility demands. Interconnection of utility systems required to provide service to on-station users. • Mitigations: None required	• Impacts: Current systems able to accommodate increased utility demands. Interconnection of utility systems required to provide service to on-station users. • Mitigations: None required	• Impacts: No changes in station-related utility use
Hazardous Materials and Hazardous Waste Management				
• Hazardous Materials Management	• Impacts: Increase in quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts • Mitigations: None required	• Impacts: Increase in quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts • Mitigations: None required	• Impacts: Increase in quantities of materials used. Compliance with applicable regulations would preclude unacceptable impacts • Mitigations: None required	• Impacts: No change in types and quantities used

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 3 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Hazardous Waste Management	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: Increase in quantities of wastes generated. Compliance with applicable regulations would preclude unacceptable impacts	• Impacts: No change in quantities of wastes generated
	• Mitigations: None required	• Mitigations: None required	• Mitigations: None required	
• Installation Restoration Program	• Impacts: Possible redevelopment delays and land use restrictions due to remediation	• Impacts: Possible redevelopment delays and land use restrictions due to remediation	• Impacts: Possible redevelopment delays and land use restrictions due to remediation	• Impacts: IRP remediation activities completed or continued as needed
	• Mitigations: None required	• Mitigations: None required	• Mitigations: None required	

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
IRP = Installation Restoration Program

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 4 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Storage Tanks	• Impacts: Storage tanks required by new owners/operators would be subject to all regulations to avoid unacceptable impacts	• Impacts: Storage tanks required by new owners/operators would be subject to all regulations to avoid unacceptable impacts	• Impacts: Storage tanks required by new owners/operators would be subject to all regulations to avoid unacceptable impacts	• Impacts: Storage tanks would be removed or maintained in place according to applicable regulations
	• Mitigations: None required	• Mitigations: None required	• Mitigations: None required	
• Asbestos	• Impacts: Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos would be managed in accordance with applicable regulations to minimize potential risk to human health or the environment	• Impacts: Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos would be managed in accordance with applicable regulations to minimize potential risk to human health or the environment	• Impacts: Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos would be managed in accordance with applicable regulations to minimize potential risk to human health or the environment	• Impacts: Continued management of asbestos in accordance with Air Force policy
	• Mitigations: None required	• Mitigations: None required	• Mitigations: None required	

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 5 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Pesticide Usage	• Impacts: Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts • Mitigations: None required	• Impacts: Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts • Mitigations: None required	• Impacts: Increased use associated with civilian development. Management in accordance with FIFRA and state guidelines would preclude unacceptable impacts • Mitigations: None required	• Impacts: No change in usage or management practices
• Polychlorinated Biphenyls	• Impacts: All federally regulated PCBs removed prior to closure • Mitigations: None required	• Impacts: All federally regulated PCBs removed prior to closure • Mitigations: None required	• Impacts: All federally regulated PCBs removed prior to closure • Mitigations: None required	• Impacts: All federally regulated PCBs removed prior to closure
• Radon	• Impacts: All facilities surveyed that registered elevated radon levels above 4 pCi/l are proposed for demolition under this proposal • Mitigations: None required	• Impacts: All facilities surveyed that registered elevated radon levels above 4 pCi/l are proposed for demolition under this proposal • Mitigations: None required	• Impacts: All facilities surveyed that registered elevated radon levels above 4 pCi/l are proposed for demolition under this proposal • Mitigations: None required	• Impacts: Affected facilities have been remediated in accordance with Air Force policy

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
FIFRA = Federal Insecticide, Fungicide, and Rodenticide Act
PCB = polychlorinated biphenyl
pCi/l = picocuries per liter

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Medical/Biohazardous Waste	• Impacts: None generated under proposed reuses • Mitigations: None required	• Impacts: None generated under proposed reuses • Mitigations: None required	• Impacts: None generated under proposed reuses • Mitigations: None required	• Impacts: No impact. None generated
• Ordnance	• Impacts: None used under proposed reuses • Mitigations: None required	• Impacts: None used under proposed reuses • Mitigations: None required	• Impacts: None used under proposed reuses • Mitigations: None required	• Impacts: No impact. None used
• Lead-Based Paint	• Impacts: Removal and disposal of lead-based paint in facilities to be demolished or renovated would be managed in accordance with applicable regulations • Mitigations: None required	• Impacts: Removal and disposal of lead-based paint in facilities to be demolished or renovated would be managed in accordance with applicable regulations • Mitigations: None required	• Impacts: Removal and disposal of lead-based paint in facilities to be demolished or renovated would be managed in accordance with applicable regulations • Mitigations: None required	• Impacts: Facilities containing lead-based paint will be managed according to applicable regulations

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 7 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
Natural Environment				
• Geology and Soils	• Impacts: Compliance with local requirements and standard construction practices would reduce the potential for impacts from construction activities • Mitigations: Erosion control if not required by regulation	• Impacts: Compliance with local requirements and standard construction practices would reduce the potential for impacts from construction activities • Mitigations: Erosion control if not required by regulation	• Impacts: Compliance with local requirements and standard construction practices would reduce the potential for impacts from construction activities • Mitigations: Erosion control if not required by regulation	• Impacts: No ground disturbance
• Water Resources	• Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts. Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. Mitigations: Erosion control if not required by regulation	• Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts. Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. Mitigations: Erosion control if not required by regulation	• Impacts: Compliance with NPDES permit requirements and standard construction practices would reduce the potential for surface water impacts. Air Force must comply with EO 11988 and AFI 32-7064 to control development in floodplains. Mitigations: Erosion control if not required by regulation	• Impacts: No ground disturbance. No change in water demand

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
AFI = Air Force Instruction
EO = Executive Order
NPDES = National Pollutant Discharge Elimination System

Table 2.7-2. Summary of Environmental Impacts and Suggested Mitigation from the Proposed Action and Reasonable Reuse Alternatives
Page 8 of 8

Resource Category	Proposed Action	Mixed Use Alternative	Industrial Alternative	No-Action Alternative
National Environment (Continued)				
• Air Quality	• Impacts: Regional emissions will not exceed NAAQS and the region's attainment status would not be affected • Mitigations: None required	• Impacts: Regional emissions will not exceed NAAQS and the region's attainment status would not be affected • Mitigations: None required	• Impacts: Regional emissions will not exceed NAAQS and the region's attainment status would not be affected • Mitigations: None required	• Impacts: No change in station-related air emissions
• Biological Resources	• Impacts: Potential impact to approximately 2 acres of wetlands • Mitigations: Wetlands mitigation could include avoidance through facility design, replacement, enhancement of wetland habitat, or control of construction-related erosion into potential wetlands	• Impacts: Potential impact to approximately 2 acres of wetlands • Mitigations: Wetlands mitigation could include avoidance through facility design, replacement, enhancement of wetland habitat, or control of construction-related erosion into potential wetlands	• Impacts: Potential impact to approximately 2 acres of wetlands • Mitigations: Wetlands mitigation could include avoidance through facility design, replacement, enhancement of wetland habitat, or control of construction-related erosion into potential wetlands	• Impacts: Minimal ground disturbance. No change in station-related activities. Potential increase in habitat value due to long-term decrease in human activity
• Cultural Resources	• Impacts: No impact. No archaeological sites or historic properties identified • Mitigations: None required	• Impacts: No impact. No archaeological sites or historic properties identified • Mitigations: None required	• Impacts: • No impact. No archaeological sites or historic properties identified • Mitigations: None required	• Impacts: No impact. No archaeological sites or historic properties identified

Note: Impacts are based on the changes from closure baseline conditions, which are projected to occur as a result of implementing that alternative.
NAAQS = National Ambient Air Quality Standards

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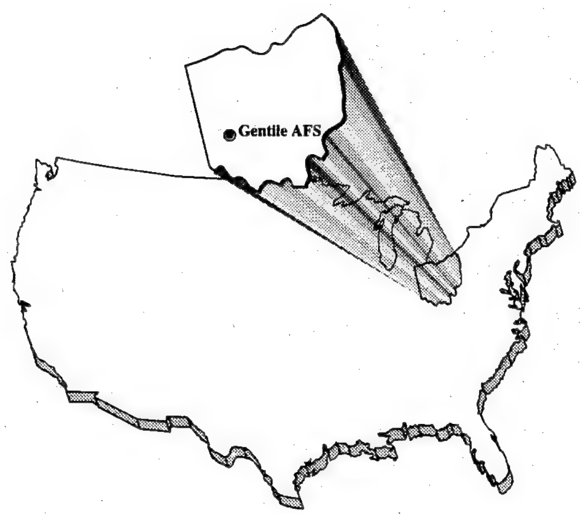


CHAPTER 3
AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This chapter describes the environmental conditions of Gentile AFS and its region of influence (ROI) as it is expected to be at the time of station closure. It provides information to serve as a baseline from which to identify and evaluate environmental changes resulting from disposal and reuse of Gentile AFS. Although this EIS focuses on the biophysical environment, some nonbiophysical elements (influencing factors) are addressed. The nonbiophysical elements of population and employment, land use and aesthetics, transportation networks, and public utility systems in the region and local communities are addressed. This chapter also describes the storage, use, and management of hazardous materials found on the station including storage tanks, asbestos, pesticides, polychlorinated biphenyls (PCBs), radon, medical/biohazardous waste, ordnance, and lead-based paint. The current status of the IRP is also described. Finally, this chapter describes the pertinent natural resources of geology and soils, water resources, air quality, biological resources, and cultural resources. Because no aircraft activity would be associated with the disposal of Gentile AFS, it was determined after initial analysis that noise impacts would be minimal. Noise is therefore not discussed further in this document.

The ROI to be studied will be defined for each resource area affected by the Proposed Action and alternatives. The ROI determines the geographical area to be addressed as the Affected Environment. Although the station boundary may constitute the ROI limit for many resources, potential impacts associated with certain issues (e.g., air quality, utility systems, water resources) transcend these limits.

The baseline conditions assumed for the purpose of analysis are the conditions projected at station closure. Closure is scheduled for December 31, 1996; therefore, 1996 was selected as the most descriptive year for the closure baseline. Impacts associated with disposal and/or reuse activities may then be addressed by comparing projected conditions under various reuses to closure conditions. A reference to preclosure conditions is provided, where appropriate (e.g., air quality), in this document, in order to provide a comparative analysis over time. Data used to describe the preclosure reference point are those that depict conditions as close as possible to the closure announcement date. This will assist the decision maker and agencies in understanding potential long-term impacts in comparison to conditions when the installation was active.

3.2 LOCAL COMMUNITY

Gentile AFS is located in Montgomery County in southwestern Ohio, approximately 4.5 miles southeast of Dayton, 60 miles west of Columbus, and 45 miles northeast of Cincinnati (Figure 3.2-1). The station is comprised of 164 acres of fee-owned land by the Air Force, and less than 1 acre of easement property.

The topography of Gentile AFS and the surrounding areas of Kettering and Dayton consist of level plains and gently rolling hills, interlaced with several streams. Surface elevations at the station vary slightly between 940 feet and 950 feet above mean sea level.

The climate in southwest Ohio is essentially continental in nature. Summers are moderately warm and humid, with July being the warmest month of the year, averaging 75 degrees Fahrenheit (°F). Winters are cold, with an average temperature in January of 28°F. Precipitation in the vicinity of the station averages 36 inches per year. Snowfall in the area primarily occurs between November and April, averaging about 29 inches per year. Severe weather events in the area primarily occur between April and the end of July, in the form of thunderstorms and tornadoes. Flooding may occur following thunderstorms; however, flooding mostly occurs during January through March, and occasionally from August to October.

Access to Gentile AFS is provided by Wilmington Pike, which follows the northeast station boundary (Figure 3.2-2). Wilmington Pike is part of an extensive network of major roads and highways in the vicinity of the station that provide access to downtown Dayton. The nearest commercial airport is in Dayton, approximately 12 miles northwest of Gentile AFS. The rail lines to Gentile AFS were removed between 1986 and 1988.

Installation Background

Gentile AFS was originally constructed between October 1943 and August 1944, when it became operational as the Dayton Signal Corps Supply Agency. The site was originally 116 acres in size and replaced partially wooded farmland and a former commercial airfield (Johnson Flying Service). Construction of this installation evolved from the need during World War II to consolidate supply operations of the U.S. Army Signal Corps Depot, which was located in 22 buildings in downtown Dayton, and 3 other cities across the United States.

The original construction of the station in 1943-1944 included four large warehouse storage facilities, in addition to numerous administrative and support facilities including a cafeteria, station exchange, and a coal-fired heating plant. In 1944, the initial overall mission of the facility was to

EXPLANATION

▩	Gentile AFS	——	County Boundary
71	Interstate	▬ ▬ ▬	State Boundary
275	U.S. Highway		
73	State Highway		

0 3.75 7.5 15 Miles

Regional Map

Figure 3.2-1

EXPLANATION

Station Boundary

0 500 1000 2000 Feet

Map Source: U.S. Geological Survey 1991, a, b.

Gentile AFS and Vicinity

Figure 3.2-2

procure, store, issue, and salvage airborne radio and meteorological equipment and supplies. In 1945, the Signal Corps functions were integrated into the U.S. Army Air Force, and the installation was renamed the 882nd Army Air Force Specialized Depot.

In 1951, 49 acres in the eastern portion of the existing installation were acquired through fee purchase. The land was used to construct additional warehouse and administrative facilities between 1951 and 1960. Also in 1951, the installation was renamed in honor of the World War II flying ace, Major Don S. Gentile (Gentile Air Force Specialized Depot), who lost his life during a training mission that same year.

In 1955, the Air Force Logistics Command was formed and an official distinction between that operational organization and the actual installation was made. The host organization was designated the Dayton Air Force Depot and the installation was officially called Gentile AFS. In 1962, the newly formed Defense Supply Agency established the DESC along with five other supply centers throughout the country. The Dayton Air Force Depot was phased out and the DESC became the principal organization at Gentile AFS. In 1977, the Defense Supply Agency was renamed the Defense Logistics Agency to reflect its expanded mission.

Although the overall mission of the installation has not drastically changed since it originally opened, the role of the DESC has been more specifically defined into primary, support, and secondary missions. The primary mission of the DESC is to provide effective and reliable electronic spare parts support to all of the U.S. military services and federal civil agencies at the most reasonable cost to the public. This primary mission includes provision of engineering support to the military services by standardizing electronic parts and encouraging their use in new design. The DESC-managed items include resistors, connectors, transformers, antennas, radio crystals, fiber optics, microcircuits, switches, communications and fire control system components, intercom, audio and video equipment, and a variety of automatic data processing items. The support mission of the DESC is to manage, control, maintain, and operate assigned facilities; negotiate and implement interservice/interagency support agreements for support services and operating supplies; and to perform maintenance and repair of the operating equipment. The secondary mission of the DESC includes the various functions of the tenant organizations.

3.2.1 Community Setting

The area surrounding Gentile AFS primarily consists of residential and commercial land uses with a large industrial development located east of the station. The ROI for employment and population effects for communities potentially affected by station disposal and reuse are Clark, Greene, Miami, and Montgomery counties. However, the effects of disposal are not expected to occur proportionately among all four counties. The employment

and population effects from disposal of the station are projected to occur in Montgomery County, primarily in the cities of Kettering, Huber Heights, and Dayton; and in Greene County, specifically in the city of Beavercreek.

Total employment in the ROI was 536,415 in 1992 and is projected to be 543,605 at closure. The average annual growth rate for employment in the ROI was 0.9 percent per year from 1970 to 1992. The national and state average annual growth rates were 1.1 and 1.9 percent per year, respectively, during the same period. The major employment sectors in the ROI for 1992 were services, manufacturing, retail trade, and government.

The site-related employment in 1992 consisted of 2,812 direct and 5,437 secondary jobs. By December 1996, the total employment associated with the station is expected to decrease to a total of 15 direct and secondary jobs associated with the caretaker activities of the OL.

Population in the ROI was 958,543 in 1992 and is projected to be 964,317 at closure. Populations in the cities of Kettering, Huber Heights, Dayton, and Beavercreek were approximately 60,152, 40,055, 183,189, and 35,788, respectively, in 1992; and are projected to be 59,872, 40,024, 183,421, and 35,546 respectively, at closure.

3.2.2 Land Use and Aesthetics

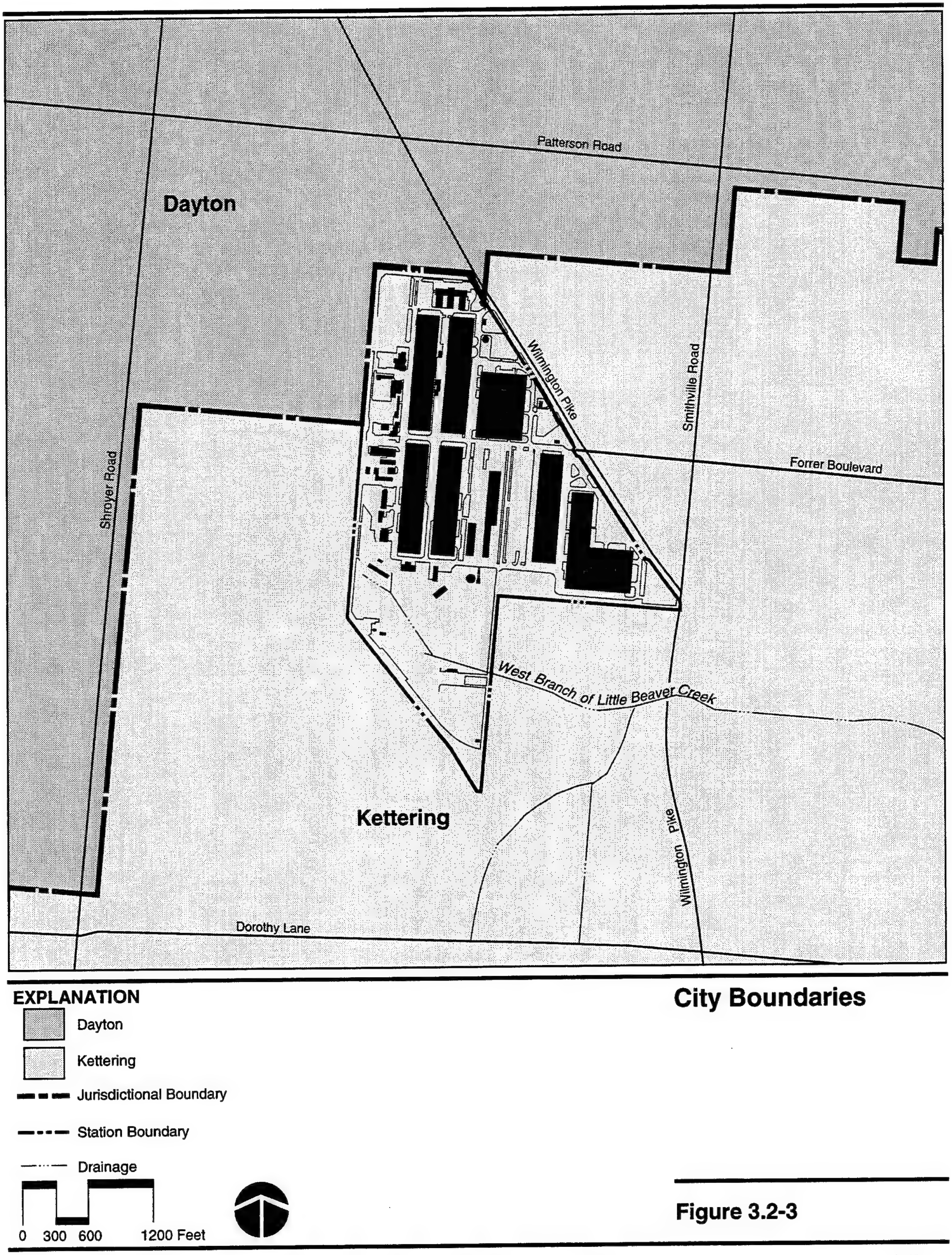
This section describes the land uses and aesthetics for the station property and the surrounding areas of Gentile AFS at closure. Projected land uses at closure are assumed to be similar to existing land uses in the vicinity of the station. The ROI includes the station property and potentially affected adjacent properties that are within the jurisdiction of the cities of Kettering and Dayton (located within Montgomery County), Ohio.

Gentile AFS property is owned by the U.S. Government and is located within the jurisdiction of the city of Kettering (Figure 3.2-3). Adjacent land north and northwest of the station is in the city of Dayton's jurisdiction. The remaining adjacent land is in the jurisdiction of the city of Kettering.

3.2.2.1 Land Use

Land Use Plans and Regulations. The comprehensive plan for a jurisdiction represents the official position on long-range development and resource management. The present and long-term position is expressed in goals, policies, plans, and actions regarding the physical, social, and economic environments.

The city of Kettering's comprehensive plan is composed of individual neighborhood plans. Gentile AFS is surrounded by three of Kettering's neighborhoods, but only one of these has a completed plan in place. The



City Boundaries

Figure 3.2-3

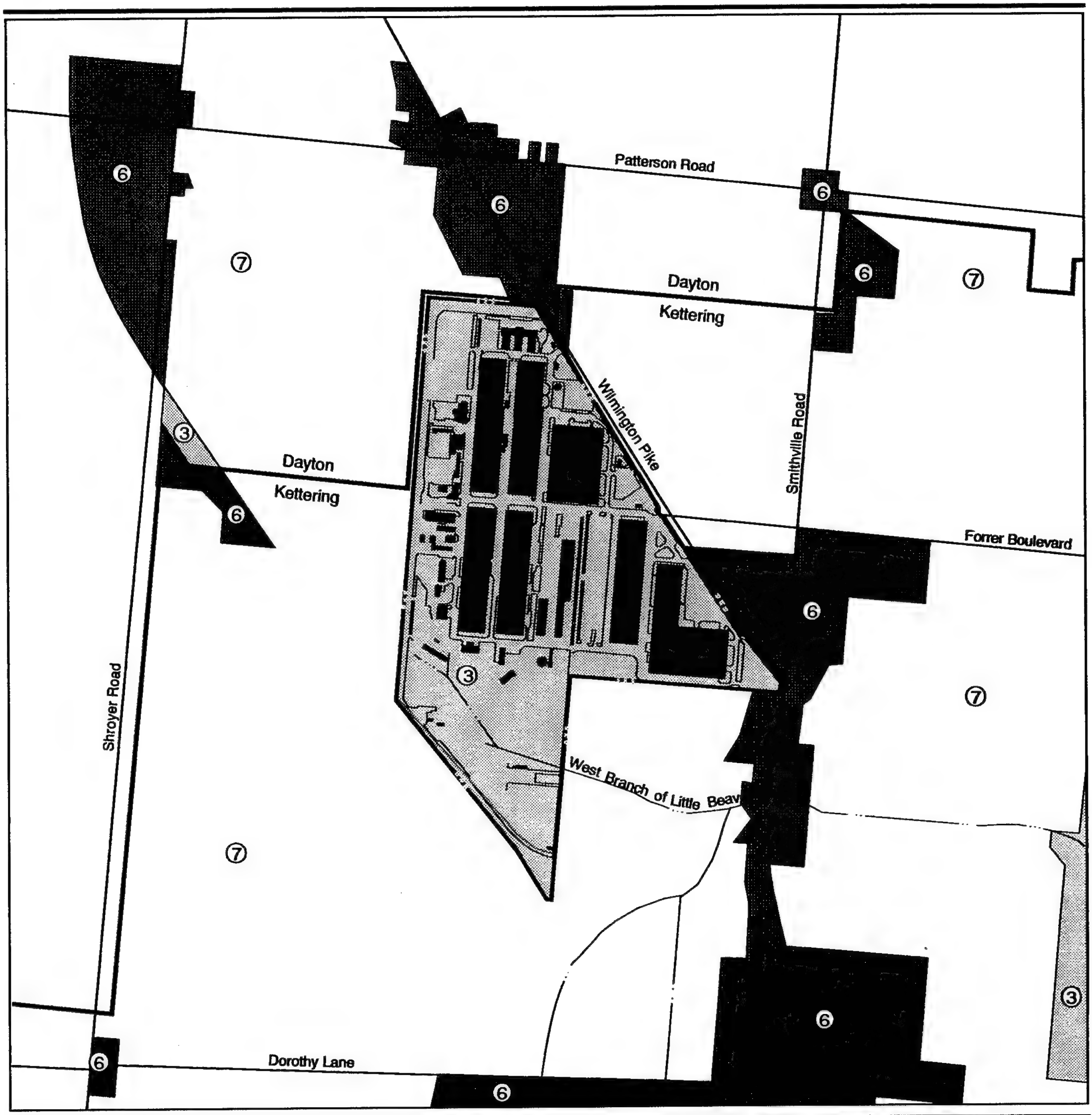
Wiles Creek Neighborhood Plan (Kettering Planning Division, 1982) includes the station property and adjacent areas south and southeast of the station within the city of Kettering's jurisdiction. The Wiles Creek Neighborhood Plan recommends that a retention basin for flood control be developed on the station property. The plan also identifies the need for a neighborhood park. East of the station, the city has no comprehensive neighborhood plan. Southwest of the station, the city is in the process of creating a comprehensive neighborhood plan for the Acorn neighborhood. The Draft Dorothy Lane/Acorn Drive/Shroyer Road Neighborhood Study (City of Kettering, 1994) establishes goals and policies to retain and improve existing residential housing and pedestrian safety of the Acorn neighborhood.

The City of Dayton's Land Use Plan (1976) is composed of neighborhood planning districts. The district north of the station is Patterson Park, which includes predominantly single-family residential land uses with areas of multifamily and commercial development. New neighborhood and community-wide commercial services are recommended in existing commercial areas along Wilmington Pike, and Shroyer and Patterson roads. The plan also recommends prohibiting additional nonresidential traffic in the Patterson Park neighborhood.

Zoning. Zoning provides for the division of a jurisdiction, in conformity with the comprehensive plan, into districts within which the height, open space, building coverage, density, and type of future land uses are set forth. Zoning is designated to achieve various community development goals, including the implementation of the comprehensive plan.

The Kettering Zoning Ordinance (City of Kettering, 1993) zoned the entire Gentile AFS property for industrial uses, as is typical for many military installations in other jurisdictions. However, the regulations of the zoning ordinance have not been applicable to Gentile AFS due to its control by the federal government (Figure 3.2-4). Limited commercial activities are allowed in a support capacity within this zone. To the west, southwest, south, and east of the site, Kettering is mostly zoned for residential uses, although areas of commercial development are zoned east of the station, generally south of Forrer Boulevard.

The Dayton Zoning Code (City of Dayton, 1986) zones most of the area west and northwest of the station as single-family and low- to medium-density multifamily residential (see Figure 3.2-4). This zoning provides for public (e.g., government) and semipublic (e.g., religious) uses to serve this residential development. North of the station, a small area has been zoned for low-density multifamily residential, with the remainder zoned for commercial uses. This commercial zoning is concentrated southeast of the intersection of Wilmington Pike and Patterson Road.



EXPLANATION

- ① Airfield *
- ② Aviation * Support
- ③ Industrial
- ④ Institutional * (Medical)
- ⑤ Institutional * (Educational)
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public Facilities/ Recreation*
- ⑨ Agriculture *
- ⑩ Vacant Land *
- Station Boundary
- Drainage
- City Boundary

0 300 600 1200 Feet

* Standard land use designation not applicable to this figure.

Local Zoning

Figure 3.2-4

On-Station Land Use. Land use identifies the present land usage by various general categories. Existing on-station land uses are shown in Figure 3.2-5 and described in this section. Gentile AFS has many multipurpose buildings; therefore, specific types of uses in each of these buildings will be discussed under the appropriate land use category. There are eight major warehouse/ administration facilities (Buildings 1, 2, 3, 4, 44, 45, 46, and 47) and many support facilities at the station. Land use acreages are shown below.

Land Use	Acreage
Industrial	90
Institutional (medical)	1
Institutional (educational)	3
Commercial	50
Residential	3
Public facilities/recreation	17
Total	164

Industrial land uses account for the majority of Gentile AFS. This use includes five major warehouses, two smaller warehouses, the central heating plant, civil engineering shops, and vehicle maintenance shops. The industrial area also includes utility facilities such as a water pump station, water tower, sanitary sewer lift station, and an electrical substation.

Institutional land uses are separated into two categories: medical and educational. The institutional (medical) area includes the dispensary located in the southern portion of the station. The institutional (educational) area includes the education center located adjacent to the West Branch of Little Beaver Creek on the southern side of the station.

The **commercial** land uses include Building 1, which contains logistical offices and the theater. Other commercial buildings include the station exchange, post office, and noncommissioned officers club. Two large administrative buildings (Buildings 45 and 46) contain offices, an extensive gymnasium, cafeteria, and various test labs.

Residential land uses are located east of Building 47 and include the periodically used visitors' quarters and the Commander's Residence.

Public facilities/recreation land uses include a swimming pool, putting green, fire station, and the security police buildings in the northwest portion of the station. Tennis and basketball courts, a putting green, an athletic track, two small garden plots, and a park with picnic facilities are located in the southern portion of the station.

Leases and Easements. The Air Force typically outgrants a number of leases, easements, and licenses to other agencies for use of the station property. Many of the outgrants are for utilities, DOD agencies, and the

2.3.1.5 Federal. The federal land use area consists of 17 acres, or 10 percent of the station, in the east-central portion of the station. This area would be utilized for federal administrative offices. The warehouses (Building 44) west of Building 45 would be demolished for parking. Reuse would commence immediately and would be complete by 2001.

2.3.1.6 Employment and Population. By 2016, the Mixed Use Alternative would include a total site-related employment of 4,319 direct jobs (Table 2.3-4). A total of 700 persons would reside on station property.

Table 2.3-4. On-Station Employment and Population - Mixed Use Alternative

	Closure	2001	2006	2016
Direct employment	5	3,320	3,973	4,319
On-station population	0	350	700	700

2.3.1.7 Transportation. Four of the existing access points to the station property would be used (see Figure 2.3-1). In addition, one right-turn-only access from Wilmington Pike to the parking area east of Building 45 would be provided. One right-turn-only lane from this parking area would also be provided to Wilmington Pike. New access to the multifamily housing area would be provided at Imperial Boulevard. Based on land use and employment projections, this alternative would generate an average of 12,300 vehicle trips daily by 2016.

2.3.1.8 Utilities. By 2016, the projected activities associated with the Mixed Use Alternative would generate the following on-station utility demands:

- Water - 0.27 MGD
- Wastewater - 0.22 MGD
- Solid waste - 17.0 tons per day
- Electricity - 75.1 MWH per day
- Natural gas - 0.36 MMCF per day.

2.3.2 Industrial Alternative

The Industrial Alternative (Figure 2.3-2) focuses on industrial and public facilities/recreation reuses of Gentile AFS. Associated uses would include commercial office, residential, and federal. The total acreage for each land use category is shown in Table 2.3-5.

The types of assumptions developed in support of the analysis for the Industrial Alternative are the same as those used for the Mixed Use Alternative.

EXPLANATION

Industrial Alternative

① Airfield*
② Aviation Support*
③ Industrial
④ Institutional (Medical)*
⑤ Institutional (Educational)*
⑥ Commercial
⑦ Residential
⑧ Public Facilities/ Recreation
⑨ Agriculture*
⑩ Vacant Land*
⑪ Federal
Station Boundary
Retained Facility
Demolished Facility
Access Point

0 175 350 700 Feet

* Standard land use designation not applicable to this figure.

Figure 2.3-2

Table 3.2-1. Inventory of Easement Agreements, Licenses, Permits, and Leases

Document Number	Expiration Date	Description	Responsible Party
Outgrants			
DACA-27-2-85-122	07/30/10	Water line R-O-W	Montgomery County
DACA-27-2-91-8	11/08/16	Sewer line R-O-W	Montgomery County
DA-15-029-ENG-5822	11/11/11	Storm drain R-O-W	City of Kettering
DACA-27-2-90-88	Perpetual	Traffic light control	City of Kettering
052-GAFS-2	08/14/02	Sewer line R-O-W	Montgomery County
052-GAFS-1	11/07/99	Gas mains R-O-W	Dayton Power & Light
DACA-27-2-67-667	Perpetual	Street R-O-W	City of Kettering
DACA-31-2-73-252	06/26/98	Communications cable	Ohio Bell Telephone Company
DACA-27-1-92-17	08/28/96	Administration space	Day Air Credit Union
DACA-27-3-85-6	01/31/95	Warehouse space	American Red Cross
DACA-27-3-91-83	05/31/96	Administration and warehouse space	Civil Air Patrol Group 7
WP-92-3-004	01/31/97	Administration space	Naval Sea Cadets
DACA-31-3-75-219	09/30/96	Administration space	Civil Air Patrol Squadron 704
10PEND-WPAFB-4	Perpetual	Administration space	Thrift Shop
DACA-27-4-67-682	06/30/97	Land and buildings	Defense Logistics Agency
DACA-27-4-86-119	09/30/96	Administration and parking space	GSA Fleet Marketing
DACA-27-4-87-097	06/30/97	Administration space	Joint Depot Analysis Group
DACA-27-4-87-107	08/31/97	Administration space	Small Business Administration
DACA-27-4-87-116	08/31/97	Warehouse space	Naval Avionics Center
DACA-27-4-91-72	06/30/97	Warehouse space	AAFES District Center
DACA-27-4-91-90	06/30/96	Administration space	Defense Inspector General/DCIS
DACA-27-4-86-105	09/30/96	Administration space	Naval Intelligence Reserve Unit
052-GAFS-3	Perpetual	Roadway extension	State of Ohio
Ingrants			
N/A	Perpetual	Sewer line	Various property owners

AAFES = Army and Air Force Exchange Service
DCIS = Defense Criminal Investigation Service
GSA = General Services Administration
N/A = not available
R-O-W = right-of-way

Source: Gentile Air Force Station, 1993.

EXPLANATION

① Airfield *
② Aviation Support *
③ Industrial
④ Institutional (Medical) *
⑤ Institutional (Educational)
⑥ Commercial
⑦ Residential
⑧ Public Facilities/ Recreation
⑨ Agriculture *
⑩ Vacant Land *
Station Property
Station Boundary
Drainage

0 300 600 1200 Feet

* Standard land use designation not applicable to this figure.

Existing Off-Station Land Use

Figure 3.2-6

more common than high visual sensitivity areas. Low visual sensitivity areas tend to have minimal landscape features, with little change in form, line, color, and texture.

The area surrounding Gentile AFS is characterized by rolling hills and level land. The only major topographic feature is the West Branch of Little Beaver Creek, which has been modified for flood control purposes. The present appearance of the station includes a variety of industrial building styles. The majority of the buildings are single story, mostly of metal or concrete construction, and built in the 1940s and 1950s. There are no high visual sensitivity areas on or in the immediate vicinity of the station. On-station areas of medium visual sensitivity are present in the generally undeveloped southern portion of Gentile AFS, along the West Branch of Little Beaver Creek. The remaining portions of the station are considered low visual sensitivity.

3.2.3 Transportation

Transportation addresses roadways and railways. The ROI for the transportation analysis includes the existing principal road and rail networks in the cities of Dayton and Kettering, with emphasis on the immediate area surrounding Gentile AFS.

3.2.3.1 Roadways. The evaluation of the existing roadway conditions focuses on capacity, which reflects the ability of the network to serve the traffic demand and volume. Capacity is stated in terms of vehicles per hour (VPH), and is the maximum number of vehicles that can reasonably be expected to use a segment of roadway or intersection during a 1-hour period. Roadway capacity is a function of several factors including the number of lanes, lane and shoulder width, traffic control devices (e.g., traffic signals), and percent trucks. For two-lane roads, capacity analysis is conducted for both directions; capacity analysis for multilane highways considers only a single direction.

To determine how well a section of roadway operates, capacity is compared against the volume of traffic carried by the section. These traffic volumes may be distinguished as (1) average annual daily traffic (AADT), the total two-way volume averaged for a full year; (2) average daily traffic (ADT), the total two-way traffic averaged for a period of time less than a year; and (3) peak-hour volume PHV), the amount of traffic that occurs in the typical peak hour. True AADTs can only be estimated by continuously counting traffic throughout the year on a section of roadway, a practice that is done for only 50-100 sites in a typical state due to equipment costs. However, ADTs from counts of shorter duration (e.g., 24-48 hours) are much more plentiful. These ADTs are factored using data available from the continuous-count sites to develop estimates of AADT for each short-count site. Throughout the remainder of this report, AADT estimates shall be used.

An assessment of PHVs and roadway capacity is conducted to establish the level of service (LOS) during the peak hour. The LOS scale ranges from A to F, with each level defined by a range of volume-to-capacity ratios (V/C). LOS values of A, B, and C are considered good operating conditions where minor or tolerable delays are experienced by motorists. LOS values of D and E represent acceptable, but below average conditions. LOS F represents an unacceptable situation of unstable stop-and-go traffic. Table 3.2-2 presents the LOS designations and their representative V/C ratios for various roadway types. These levels are more fully described in the Highway Capacity Manual (Transportation Research Board, 1985).

Table 3.2-2. Road Transportation Levels of Service

		Criteria (V/C)	
LOS	Description	Multilane Arterial	Two-lane Highway
A	Free flow with users unaffected by presence of other users of roadway	0-0.35	0-0.15
B	Stable flow, but presence of the users in traffic stream becomes noticeable	0.36-0.54	0.16-0.27
C	Stable flow, but operation of single users becomes affected by interactions with others in traffic stream	0.55-0.71	0.28-0.43
D	High density, but stable flow; speed and freedom of movement are severely restricted; poor level of comfort and convenience	0.72-0.80	0.44-0.64
E	Unstable flow; operating conditions at capacity with reduced speeds, maneuvering difficulty, and extremely poor levels of comfort and convenience	0.81-1.00	0.65-1.00
F	Forced breakdown flow with traffic demand exceeding capacity; unstable stop-and-go traffic	> 1.00	> 1.00

LOS = level of service
V/C = volume-to-capacity ratios

Source: Transportation Research Board, 1985.

Existing roads and highways within the ROI are described at two levels: (1) regional, representing the major links within the Dayton area, and (2) local representing community roads.

Regional. The Dayton metropolitan area is at the crossroads of Interstate (I) 70, a major east-west freeway connecting Indianapolis, Indiana, and Columbus, Ohio; and I-75, a major north-south freeway connecting Toledo and Cincinnati, Ohio. I-675 provides for a bypass along the eastern and southeastern edge of Dayton connecting I-70 and I-75 (see Figure 3.2-1). Access to Gentile AFS from I-675 and U.S. 35 is over a network of signalized county and local roadways that service a highly suburbanized community.

Local. Figure 3.2-7 identifies the general local road network in the immediate vicinity of Gentile AFS at the time of station closure. Wilmington Pike is a four-lane, north-south, undivided roadway, with a speed limit of 35 miles per hour. Wilmington Pike provides direct access from downtown Dayton and connects with Dorothy Lane, south of the station. The AADT on Wilmington Pike was 18,000 between Patterson Road and Forrer Boulevard, 17,000 between Forrer Boulevard and Smithville Road, and 39,500 between Smithville Road and Dorothy Lane. Dorothy Lane is an east-west, four-lane, undivided roadway that is the main thoroughfare from I-675 west to the city of Oakwood. The roadway has an AADT of 20,000 vehicles.

Forrer Boulevard is an east-west, four-lane, undivided roadway between Wilmington Pike and Smithville Road. The roadway has an AADT of 7,000 vehicles.

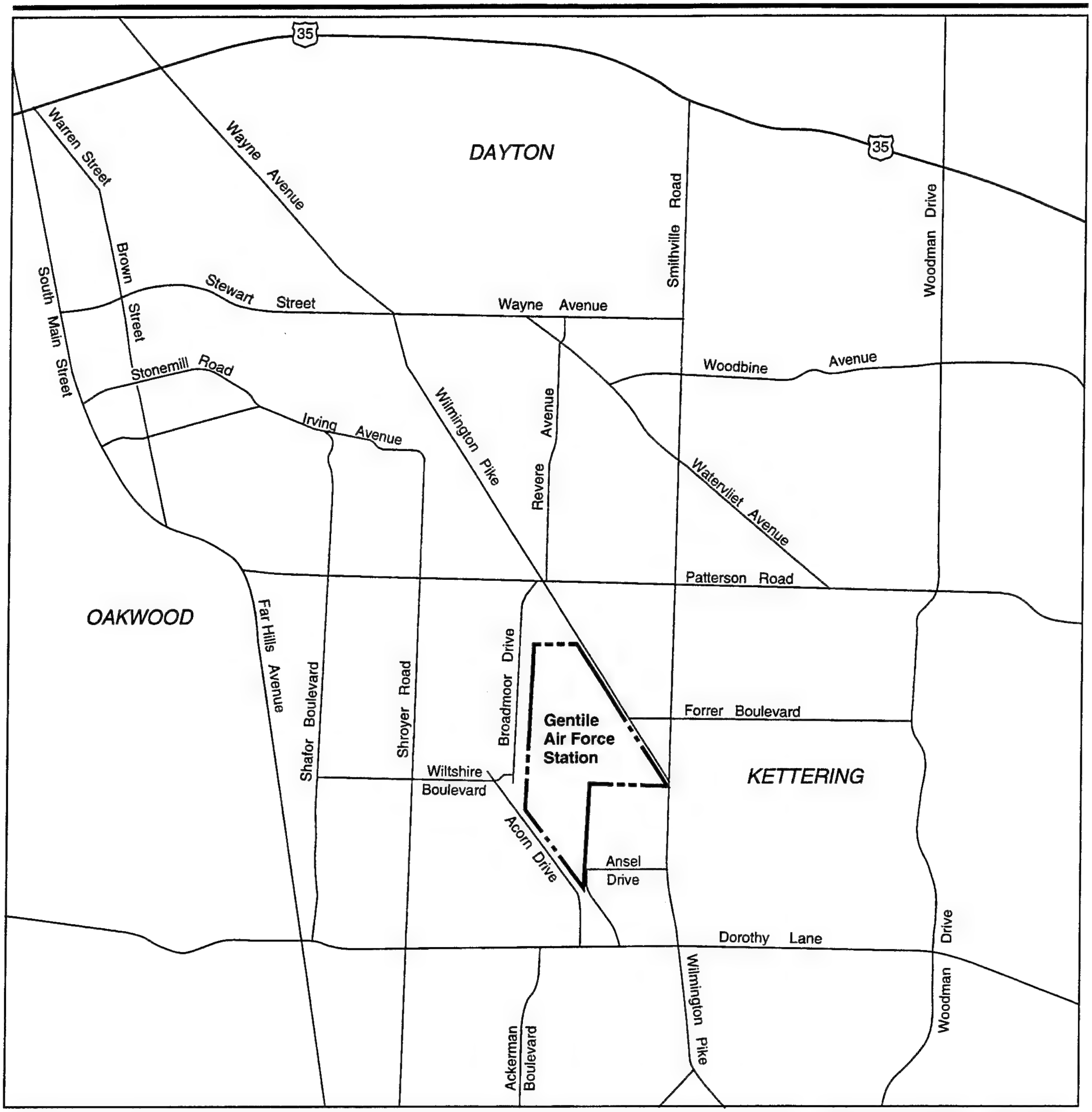
Vehicles exiting Gentile AFS from Independence Road on the station can travel east on Forrer Boulevard to access other north-south roadways.

Smithville Road is a north-south, four-lane, undivided, signalized roadway that provides access to U.S. 35. Between Patterson Road and Wilmington Pike, the roadway has an AADT of 24,000 vehicles.

Patterson Road is an east-west, two-lane roadway that provides local access from Wilmington Pike to the city of Oakwood. The roadway has an AADT of 5,270 vehicles.

On Station. Figure 3.2-8 shows the location of the gates that provide access to Gentile AFS and the on-station grid road network. Access to Gentile AFS is through one of three gates. The Main Gate is accessed from a signalized intersection of Trenton Road and Wilmington Pike, and is open 24 hours per day. Gate counts show an evening peak-hour rate of 250 VPH at this location. Gate 3A is located on Lafayette Street at the southern tip of the station. The gate is across from the intersection of Ansel Drive and West Avenue. PHVs at this gate during the evening equaled 200 VPH. Gate 3A is open from 6:00 a.m. to 8:30 a.m., and 3:00 p.m. to 5:30 p.m. Gate 1 on Adams Street/Independence Road provides outbound access to Wilmington Pike and Forrer Boulevard. PHVs in the evening are 400 VPH. Gate 1 is open from 11:00 a.m. to 1:00 p.m., and 3:00 p.m. to 5:30 p.m.

Key on-station collector roads are Franklin Street, Trenton Road, and Madison Street. Adams Street, Lafayette Street, Liberty Road, and Independence Road also provide access to facilities on the station. Roadway widths are 20-26 feet, and many intersections do not have adequate curb radii to accommodate truck traffic.



EXPLANATION

---- Station Boundary

Local Transportation System

0 750 1500 3000 Feet

Figure 3.2-7

EXPLANATION

Key On-Station Roads

Station Boundary

Drainage

Gate

Figure 3.2-8

Preclosure Reference. Wilmington Pike, between Smithville Road and Dorothy Lane, operated at LOS E during peak hours under preclosure conditions. The other key local roadway segments operated at LOS D or better. The preclosure PHVs, capacities, and LOS on key community roadways are shown in Table 3.2-3.

Table 3.2-3. Peak-Hour Traffic Volumes and LOS on Key Roads

Roadway	Segment	Capacity (VPH)	Preclosure (1992)		Closure (1996)	
			PHV	LOS	PHV	LOS
Wilmington Pike	Patterson Road to Forrer Boulevard	1,800	800	B	500	A
Wilmington Pike	Forrer Boulevard to Smithville Road	1,800	750	B	600	A
Wilmington Pike	Smithville Road to Dorothy Lane	1,800	1,750	E	1,400	D
Dorothy Lane	Wilmington Pike to Shroyer Road	1,800	1,300	D	1,250	C
Dorothy Lane	Wilmington Pike to Woodman Drive	1,800	1,200	C	1,050	C
Smithville Road	Wilmington Pike to Patterson Road	1,800	1,100	C	900	B
Forrer Boulevard	Wilmington Pike to Smithville Road	1,800	300	B	150	A
Patterson Road	Shafor Boulevard to Wilmington Pike	1,800	300	B	250	A

LOS = level of service
PHV = peak-hour volume
VPH = vehicles per hour

Closure Baseline. Upon closure of Gentile AFS, traffic in the vicinity of the station will decrease. Traffic generated by the station would be associated with the OL, with the Main Gate being the only access point. The LOS would improve on all of the key community roadways except Dorothy Lane from Wilmington Pike to Woodman Drive, which would remain at LOS C. Table 3.2-3 shows the projected closure PHV and LOS for the key roadways in the ROI.

3.2.3.2 Other Transportation Modes. Rail service is no longer available at Gentile AFS; however, an operational network primarily consisting of Conrail and Chessie System exists in the region. Commercial air service is available in Dayton, approximately 12 miles northwest of Gentile AFS. No noticeable change in regional rail or air service is expected to occur as a result of the Gentile AFS closure.

3.2.4 Utilities

The utility systems addressed in this analysis include the facilities and infrastructure used for potable water, wastewater, solid waste, and energy including the provision of electricity and natural gas.

The ROI for utilities consists of the service areas of each utility provider servicing the station and local community. The major attributes of utility systems in the ROI are processing, distribution and storage capacities, and related factors, such as average daily consumption required in making a determination of adequacy of such systems to provide services in the future.

Projected utility use at the time of closure were developed based on discussions with the purveyors, historic consumption patterns, and systemwide average annual growth rates. All projections were adjusted to reflect the decrease in demand associated with the station closure and are presented in Table 3.2-4.

Table 3.2-4. Estimated Utility Consumption in the ROI

	(Preclosure) 1993	1994	1995	(Closure) 1997
Water Consumption (MGD)	75.0	75.2	75.4	75.4
Wastewater Treatment (MGD)	78.7	78.9	79.1	79.3
Solid Waste (tons per day)	473	417	361	305
Electrical Consumption (MWH per day)	40,208	40,811	41,423	41,959
Natural Gas (MMCF per day)	155.8	155.8	155.8	154.0

MGD = million gallons per day
MMCF = million cubic feet
MWH = megawatt-hours
ROI = region of influence

3.2.4.1 Water Supply. The ROI for water supply consists of Gentile AFS and the 130-square-mile area served by the city of Dayton, which includes Kettering and portions of Montgomery County.

On Station. Gentile AFS obtains water for domestic and industrial uses from an interconnection with the city of Dayton's water main located under Wilmington Pike. A 10-inch cast-iron pipe connects to the pump station that feeds the supply into a 500,000 gallon elevated steel storage tank. Average daily consumption at Gentile AFS in 1993 was approximately 0.17 MGD.

Off Station. The city of Dayton supplies water to a population of approximately 422,000 from a total of 101 wells in the Mad River and Miami River valleys. The city's system includes two treatment plants with a capacity to treat 192 MGD, and operates 16 storage tanks and reservoirs with a total capacity of 72 million gallons. Average daily consumption in the ROI was approximately 75.0 MGD in 1993.

Preclosure Reference. Average daily potable water consumption in the ROI is presented in Table 3.2-4. The average daily water use for Gentile AFS has constituted 0.23 percent of the potable water consumed in the ROI.

Closure Baseline. Potable water consumption in the ROI is projected to be approximately 75.4 MGD by 1997. Water consumption at Gentile AFS will decrease as the drawdown of personnel occurs from 1993 to closure. Demand from continuing operations at the OL is estimated to be approximately 0.01 percent of the on-station average daily demand in 1993.

3.2.4.2 Wastewater. The ROI for wastewater treatment consists of Gentile AFS and the areas served by the city of Dayton and Montgomery County. The combined system capacity can treat up to 105 MGD in these service areas.

On Station. The majority of wastewater generated at Gentile AFS is collected and pumped by a lift station to the city of Dayton's wastewater treatment system. In 1993, the wastewater flow was estimated to be 0.06 MGD. Wastewater generated in Buildings 45, 46, 84, and 110 flow to Montgomery County's wastewater system in accordance with the county discharge permit. The discharge to the County's system is not metered and has been estimated at 0.001 MGD. In both cases, prior to leaving the station system, the wastewater is ground in a comminutor (shredder).

Off Station. The city of Dayton provides wastewater treatment to its residents, and Montgomery County provides wastewater treatment to residents in the city of Kettering and areas south of the Dayton city limit. Dayton's tertiary treatment plant system has a capacity of 72 MGD, and had average daily flows of 55.2 MGD in 1993. Montgomery County has two treatment plants with a total capacity of 33 MGD. Average daily wastewater flow to the county's plants was 23.5 MGD in 1993.

Preclosure Reference. Table 3.2-4 presents wastewater generation in the ROI. In 1993, the station's flow constituted about 0.08 percent of the wastewater generated in the ROI.

Closure Baseline. As the drawdown of station personnel proceeds, wastewater flows will decrease to approximately 0.005 MGD, or 0.01 percent of the on-station average daily demand in 1993. Wastewater generation in the ROI is projected to be 79.3 MGD at closure.

3.2.4.3 Solid Waste. The ROI for solid waste disposal consists of waste disposal facilities that serve the Montgomery County Solid Waste District. The District is comprised of Dayton and Kettering and 28 other cities, villages, and townships within Montgomery County.

On Station. Solid waste generated at Gentile AFS is hauled off the station by a commercial hauler. The station has instituted a recycling program for computer and ledger paper, motor oil, aluminum cans, scrap wood and metals, cardboard, and computer tab cards. In 1993, the station recycled 84.85 tons of scrap metal, 52.88 tons of computer paper, and 59.74 tons of ledger paper. This effort cut waste disposal to 1.71 tons per day.

Off Station. Residential solid waste generated in Montgomery County is taken to one of two incinerators that have the capacity to burn approximately 900 tons per day. An ash monofill with 2 years of capacity supports both of the incinerators. There are no other sanitary landfills in the county and wastes are disposed of at various landfills outside of Montgomery County. Commercial and industrial solid wastes are not brought to either of the incinerators. These wastes are taken to various landfills outside the county.

In 1992, the County Solid Waste District estimated that it generated 3,444 tons per day of solid waste by residential, commercial, and industrial customers. Of the 3,444 tons per day generated in the county, 1,348 tons per day of residential waste were received at the incinerators. Of this amount, 973 tons per day were incinerated, 13 tons per day were composted, 35 tons per day were recycled, and 327 tons per day were transferred to a landfill. Ash produced by the incinerators and disposed of in the monofill equaled 146 tons per day. Total solid waste disposed of in the monofill or at other landfills was estimated at 473 tons per day. Approximately 2,096 tons per day of industrial and commercial solid waste is disposed of through commercial disposal services.

The county has submitted an application to Ohio EPA for a new ash monofill to replace the existing landfill. Also a new landfill is being developed by a private company that is scheduled to be opened by the end of 1995 in Montgomery County.

Preclosure Reference. Table 3.2-4 presents the amount of solid waste disposed of in the ROI. Gentile AFS disposed of approximately 1.71 tons per day in 1993. This amount constituted less than 0.05 percent of the solid waste disposed of in the ROI.

Closure Baseline. As the drawdown of station personnel proceeds, solid waste generation at closure is estimated to be 0.08 ton per day. Solid waste disposal in the ROI is estimated to be 305 tons per day at closure.

3.2.4.4 Energy. The ROI for energy consists of the local service areas for Dayton Power & Light (DP&L).

Electricity

On Station. Electricity is provided to Gentile AFS by DP&L from the Kettering substation. Gentile AFS consumed approximately 86.8 MWH per day in 1993. The main feeder provides electricity at 12.47 kilovolts (kV), and there are two standby feeders. Four circuits provide electricity to distribution transformers at various locations on Gentile AFS.

Off Station. DP&L provides electrical power to 458,000 retail customers in a 24-county area of west central Ohio. DP&L's system consumed 40,208 MWH per day in 1993. Based on the average annual consumption per household of 11.1 MWH per day it is estimated that Montgomery County residents consumed approximately 6,036 MWH per day in 1993, or 15 percent of the system consumption.

Preclosure Reference. Table 3.2-4 presents electrical consumption in the ROI. Gentile AFS consumed approximately 86.8 MWH per day in FY 1993. This amount constituted approximately 0.21 percent of the electricity consumed in the ROI.

Closure Baseline. As the drawdown of station personnel proceeds, electrical consumption in the ROI is estimated to be 41,959 MWH per day at closure. Electrical consumption at Gentile AFS from continuing OL operations is estimated to be 8.5 MWH per day, or 10 percent of the 1993 on-station consumption.

Natural Gas

On Station. Natural gas is provided to the station by DP&L through a number of interconnections. The system is a mixture of black iron pipe installed in 1943 and polyvinyl chloride (PVC) piping that was installed during the last 15 years. Gentile AFS consumed approximately 0.005 MMCF per day in 1993.

Off Station. DP&L provides natural gas to 282,000 customers in 16 counties in west-central Ohio. In 1993, DP&L sold 155.84 MMCF per day in the ROI. Based on the average annual consumption of 0.11 MMCF per day per household, it is estimated that the residents of Montgomery County consumed approximately 59.8 MMCF per day in 1993, or 38 percent of the system consumption.

Preclosure Reference. Table 3.2-4 presents natural gas consumption in the ROI under preclosure conditions. Gentile AFS consumed approximately 0.005 MMCF/day in 1993. This amount constituted approximately 0.003 percent of the natural gas consumed in the ROI in 1993.

Closure Baseline. As the drawdown of station personnel proceeds, natural gas consumption in the ROI is expected to remain level at 155.8 MMCF per day, decreasing to 154 MMCF per day at closure. Natural gas consumption at Gentile AFS from continuing OL caretaker operations is estimated to be about 10 percent of the 1993 on-station consumption.

3.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

Hazardous materials and hazardous waste management activities at Gentile AFS are governed by specific environmental regulations. For the purpose of the following analysis, the term hazardous waste or hazardous materials will mean those substances defined as hazardous by the CERCLA, 42 U.S.C. §9601 et seq., as amended; and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §6901-6992, as amended. In general, this includes substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics may present substantial danger to public health or welfare or the environment when released into the environment. The state regulates hazardous wastes under the Ohio Hazardous Waste Management Regulations, Ohio Administrative Code (OAC) Title 3745, Chapters 50 through 69, (OAC 3745-50 to 69), as promulgated by the Ohio Solid and Hazardous Waste Disposal Law, Ohio Revised Code (ORC), Title 37, Chapter 3734 (ORC 37-3734), and enforced by the Ohio EPA.

Transportation of hazardous materials is regulated by the federal Department of Transportation (DOT) regulations within Chapter 49 of the CFR. Ohio adopted a more stringent Hazardous Materials Transportation Law, ORC 3734.15 et seq., in 1988 to regulate the transportation of hazardous materials within the state and is enforced by the Public Utilities Commission of Ohio. The transportation of hazardous wastes in the state of Ohio is regulated under OAC 3745-52-20 to 33 and enforced by the Ohio EPA.

The ROI encompasses all geographic areas that are exposed to the possibility of a release of hazardous materials or hazardous wastes. The ROI for known contaminated sites is within the existing station boundaries, with the exception of groundwater contamination in the southern portion of the station, which may have migrated off station. Specific geographic areas affected by past and current hazardous waste operations, including cleanup activities, are presented in detail in the following sections.

The preclosure reference for the purposes of this analysis was established as December 1992. This date represents conditions of full mission operation prior to the initiation of drawdown activities.

3.3.1 Hazardous Materials Management

Preclosure Reference. The hazardous materials most commonly utilized at Gentile AFS include fuels, oils, lubricants, industrial solvents, cleaners, batteries, acids, antifreeze, compressed gases, paints, thinners, and pesticides (see Section 3.3.6, Pesticide Usage). Most of these materials are delivered to Shipping and Receiving (Building 3); from that point, they are distributed to the workplace where they are utilized. Exceptions to this include motor vehicle fuels, which are delivered directly to the Service Station.

A Spill Prevention Control and Countermeasures Plan (SPCCP) (U.S. Air Force, 1988c) was implemented at Gentile AFS in compliance with 40 CFR 112. The plan provides procedures, guidelines, and requirements to prevent the release of petroleum products and other hazardous materials. The implementation of the SPCCP is the responsibility of the station's Environmental Management Office.

Material Safety Data Sheets (MSDSs) provide a summary of important health, safety, and toxicological information for specific chemicals or the mixture ingredients of a product. MSDSs for all hazardous materials used at Gentile AFS are on file at the station's Health and Safety Office. MSDSs are also available in each workplace for all hazardous materials utilized at that work location.

Closure Baseline. At closure, only the OL will be using hazardous materials. The OL, consisting of Air Force and contractor components, will be responsible for managing these materials in accordance with federal, state, and local regulations to protect their employees from occupational exposure to hazardous materials and to protect the public health of the surrounding community. In addition, all parties will comply with the federal Emergency Planning and Community Right-to-Know Act (EPCRA), 42 U.S.C. §§11001 et seq., which is administered by the Ohio EPA.

The OL will be responsible for the safe storage and handling of all hazardous materials used in conjunction with preventive and regular maintenance activities, grounds maintenance, and water and wastewater treatment. Hazardous materials may include paint, paint thinner, solvents, corrosives, ignitables, pesticides, and miscellaneous materials associated with vehicle and machinery maintenance (motor oils/fuels). These materials will be delivered to the station in compliance with the Hazardous Materials Transportation Act (HMTA) under 49 CFR.

3.3.2 Hazardous Waste Management

Preclosure Reference. Normal operations at Gentile AFS currently produce wastes defined as hazardous by RCRA, 40 CFR 261-265, and Ohio Hazardous Waste Management Regulations under OAC 3745-51-02.

Additionally, hazardous wastes are regulated under 37 ORC and OAC 3745-50 to 69.

Gentile AFS operates as a small-quantity hazardous waste generator (Ohio EPA I.D. No. OH3971524357), which means that the station generated between 100 kilograms (kg) and 1,000 kg of hazardous waste per month. As a small-quantity generator, Gentile AFS is allowed to store hazardous wastes on station for up to 180 days, or 270 days if the waste is to be shipped over 200 miles.

Hazardous wastes are generated at nine locations on the station (Table 3.3-1). All wastes are brought to the waste storage area in Building 3 following generation. Final disposal of hazardous wastes is conducted by the Wright-Patterson Air Force Base (AFB) Office of the Defense Reutilization and Marketing Office (DRMO). Gentile AFS personnel contact DRMO to initiate waste disposal measures prior to expiration of the 180-day storage limit. Upon notification, DRMO personnel inspect the waste containers, insure proper manifesting, and contact a permitted contractor for disposal off station.

Table 3.3-1. Hazardous Waste Generation and Accumulation Points (as of December 1993)

Site	Facility Number	Description
Waste Streams		
1	4	Paint Shop
2	11	Motor Pool
3	11	Motor Pool
4	45[a]	Photo Shop
5	46	Defense Printing Service
6	46[a]	Quality Assurance Laboratory
7	46[a]	Quality Assurance Laboratory
8	73	Emergency Power Generators
9	81	Emergency Power Station
Accumulation Point		
1	3	Shipping and Receiving

Note : (a) Effluent to sanitary sewer.

In May 1993, Gentile AFS implemented the DESC Hazardous Waste Minimization Plan (HAZMIN) (U.S. Air Force, 1993) as required by the DLA. The HAZMIN identifies and quantifies areas of waste generation on the station, and provides waste reduction practices. Enforcement of the HAZMIN is the responsibility of the Environmental Management Office.

Closure Baseline. At closure, all of the hazardous waste generated by station functions will have been collected from all waste streams and the

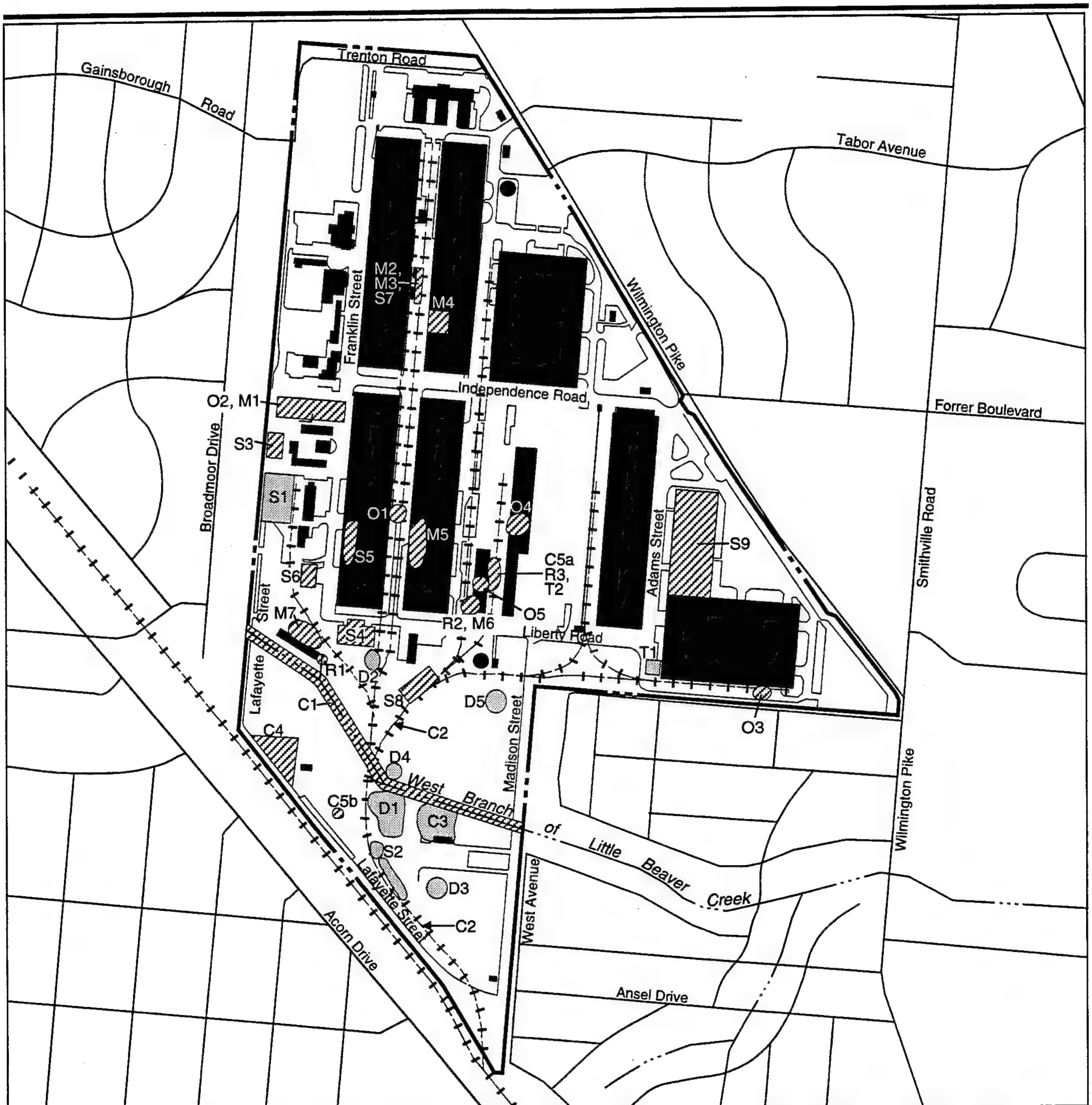
Accumulation Point located in Building 3, and disposed of off site to a permitted facility in accordance with RCRA and Ohio Hazardous Waste Management Regulations, OAC 3745. Hazardous waste generated by the OL will be managed to ensure proper identification, storage, transportation, and disposal, as well as implementation of waste minimization programs.

3.3.3 Installation Restoration Program Sites Management

The IRP is an Air Force program to identify, characterize, and remediate past environmental contamination on its installations. Although widely accepted at the time, procedures followed prior to the mid-1970s for managing and disposing of many wastes often resulted in contamination of the environment. The program has established a process to evaluate past disposal sites, control the migration of contaminants, and control potential hazards to human health and the environment. CERCLA was passed in 1980 and provides a series of programs that address the cleanup of hazardous waste disposal and spill sites. CERCLA also established a trust fund commonly known as Superfund. In 1986, CERCLA was amended by the Superfund Amendments Reauthorization Act (SARA). Section 211 of the SARA, codified as the Defense Environmental Restoration Program (DERP), of which the Air Force IRP is a subset, ensures that DOD has the authority to conduct its own environmental restoration programs. DOD coordinates IRP activities with U.S. EPA and appropriate state agencies. At Gentile AFS, the DLA is responsible for funding the IRP, and the Air Force is responsible for seeing that it is carried out and coordinated with real property disposal.

Prior to passage of SARA and the establishment of the National Contingency Plan (NCP) for hazardous waste sites, Air Force IRP procedures followed DOD policy guidelines mirroring the U.S. EPA's Superfund Program. Since SARA was passed, many federal facilities have been placed on a federal docket and the U.S. EPA has been evaluating the facilities' waste sites for possible inclusion on the National Priorities List (NPL). The U.S. EPA has not proposed Gentile AFS for listing on the NPL. The state and local community members will review, comment, and provide recommendations on project plans, and identify applicable or relevant and appropriate regulations by participating in the Restoration Advisory Board (RAB). Additionally, in February 1994, DOD and the state entered into a Defense-State Memorandum of Agreement (DSMOA). The Ohio EPA, acting as the lead agency, will establish and enforce regulatory mechanisms, and approve remediation alternatives and schedules.

Ongoing activities at identified IRP sites may delay or limit some proposed land uses at or near those sites (Figure 3.3-1). Future land uses by the recipients on a site-specific level may be, to a certain extent, limited by the severity of contamination or level of remediation effort at these IRP sites. Reasonably foreseeable land use constraints are discussed in this EIS. Regulatory review as required by the Air Force programs will also ensure that



EXPLANATION

Installation Restoration Program Sites

Potential Contamination Sites

Station Boundary

Former Railroad Spurs

0 175 350 700 Feet

Notes: Site B1 is a stationwide characterization of soils and groundwater.
Site C2 includes all former railroad spurs.
Site C4 is an approximate location.
Sanitary sewer and storm drain systems thoughout the station are considered potential contamination sites.

Installation Restoration Program and Potential Contamination Sites

Figure 3.3-1

any site-specific land use limitations are identified and considered. A representation of the IRP management process followed at Gentile AFS is shown in Figure 3.3-2.

The original IRP was divided into four phases, consistent with CERCLA:

- Phase I: Problem Identification and Records Search
- Phase II: Problem Confirmation and Quantification
- Phase III: Technology Development (TD)
- Phase IV: Corrective Action.

After SARA was passed in 1986, the IRP was realigned to incorporate the terminology used by the U.S. EPA and to integrate the new requirements in the NCP. The result was the creation of three action stages:

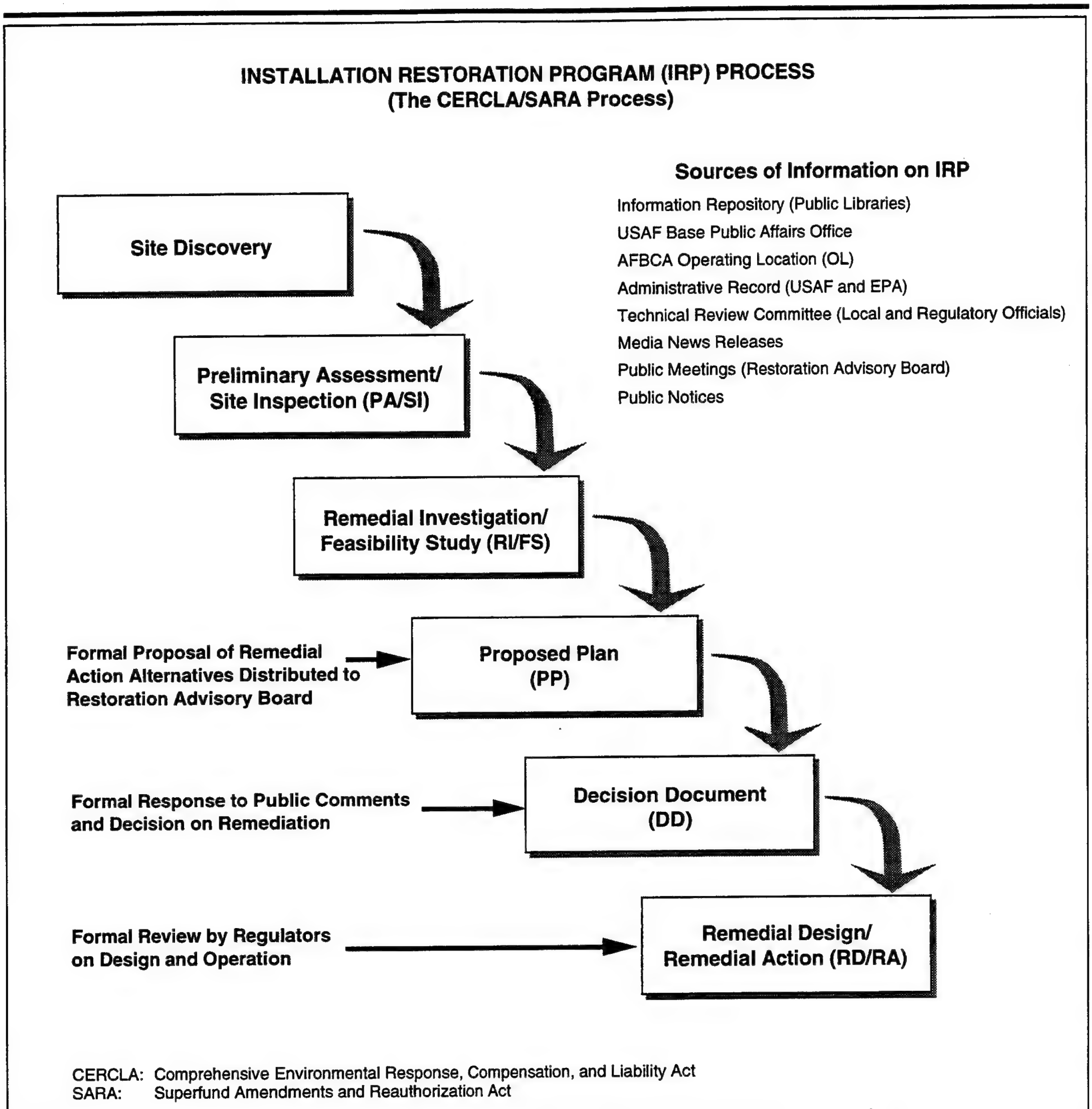
- Preliminary Assessment/Site Inspection (PA/SI)
- Remedial Investigation/Feasibility Study (RI/FS)
- Remedial Design/Remedial Action (RD/RA).

The PA portion of the first stage under the NCP is comparable to the original IRP Phase I, and consists of a records search and interviews to determine whether potential problems exist. A brief SI that may include soil and water sampling is performed to give an initial characterization or confirm the presence of contamination at a potential site.

An RI is similar to the original Phase II, and consists of additional fieldwork and evaluations in order to assess the nature and extent of contamination. It includes a risk assessment and determines the need for site remediation.

The original IRP Phase IV has been replaced by the FS and the RD within the third stage. The FS documents the development, evaluation, and selection of alternatives to remediate the site. The selected alternative is then designed (RD) and implemented (RA). Long-term monitoring is often performed in association with site remediation to assure future compliance with contaminant standards or achievement of remediation goals. The Phase III portion of the IRP process is not included in the normal SARA process. TD under SARA is done under separate processes, including the Superfund Innovative Technology Evaluation program. The Air Force has an active TD program in cooperation with the U.S. EPA to find solutions to problems common to Air Force facilities.

The closure of Gentile AFS will not affect the ongoing IRP activity. These IRP activities, managed by the OL, will continue in accordance with federal, state, and local regulations to protect human health and the environment, regardless of the property disposal decisions. The establishment of the RAB allows for joint involvement in the IRP between the U.S. Air Force, DLA, federal and state regulators, and the local community. The DSMOA between



Pictorial Presentation of IRP Process

Figure 3.3-2

DOD and the state will establish regulatory mechanisms, and set remediation alternatives and schedules. The Air Force will retain any necessary interests (e.g., easements) in order to perform operations and maintenance on all remediation systems.

The public may keep abreast of the IRP at Gentile AFS through various sources of information, including the public/open viewing of IRP documents contained in the administrative record located at the Environmental Management Office. Additionally, the IRP, as mandated by CERCLA/SARA and the NCP, has a public participatory program much like the one in the preparation of this EIS. The Air Force will, with the acceptance of each RI/FS by the regulatory community, prepare a proposed plan for the remediation of a site(s), which will include a discussion of alternatives considered. The proposed plan will be distributed to the public for comment, a public meeting will be held to discuss the proposed plan, and comments on the proposed plan will be accepted by the Air Force. The Air Force will then respond to all comments, making those responses part of a decision document on what the remediation will entail prior to any remedial action being taken (see Figure 3.3-2).

Preclosure Reference. The Phase I-Records Search for Gentile AFS was published in November 1982. It initially identified six potentially contaminated sites including: the Disposal Area No. 1 (D1), two Low-Level Radioactive Waste Disposal Sites (D4 and D5), the Hydrofluoric Acid Neutralization and Settling Basin (T1), and two Coal Storage Areas (S1 and S2). These sites are identified on Figure 3.3-1; Table 3.3-2 provides a detailed site description. The Phase I-Records Search concluded that since the potential for contamination was low for all sites, no further Phase II investigations were recommended.

In an attempt to determine the presence or absence of groundwater contamination in the area of the Disposal Area No. 1 and the Former Small Arms Firing Range (C3), the U.S. Army Environmental Hygiene Agency (AEHA) installed five groundwater monitoring wells in 1988 and an additional three monitoring wells in 1989. Groundwater sampling detected benzene, vinyl chloride, and trichloroethylene in a well near the site; and benzene, ethyl benzene, toluene, and xylene in a well approximately 200 feet further to the northeast. The AEHA replaced the eight monitoring wells in August 1994 and have continued groundwater monitoring.

In 1993, two additional sites, Disposal Area No. 2 (D2) and the Old Salvage Yard (D3) were identified to undergo IRP investigations to support the station closure process, bringing the total number of IRP sites at Gentile AFS to nine.

Table 3.3-2. Installation Restoration Program Sites
Page 1 of 7

Site Number	Site Name	Site Location and Waste Description	RI/FS Objectives
B1	Background Characterization of Soil and Groundwater	Stationwide soil, and groundwater and upstream area of the West Branch of Little Beaver Creek.	Characterize the upstream creek surface water and sediments, in addition to, stationwide soil and groundwater characterization
C1	West Branch of Little Beaver Creek	The creek site runs west to east across the southern portion of the station. All on-station storm water runoff is channeled into the creek, which then flows easterly through an open drainage ditch.	Determine the presence and character of contamination in creek sediments and surface waters
C2	Rail Lines	A single rail line entered Gentile AFS at the southern end of the station. This line then split into spurs that serviced the main warehouse facilities. The last of the rail lines were removed in 1985. Fuel, oil, and other materials may have been released along the rail lines throughout their use.	Determine the presence and character of any residues from rail usage
C3	Former Small Arms Firing Range/Skeet Range	The Former Small Arms Firing Range is an open area in the southern portion of the station, immediately north of Building 110, and approximately 50 yards long by 25 yards wide. Small caliber weapons were fired from firing bays adjacent to Building 110 into a metal deflecting plate, and into a sand trap. Side walls and ricochet baffles prevented bullets from leaving the range. The Former Skeet Range was located in the open field immediately west of the Former Small Arms Firing Range. Both ranges were constructed in 1961 and were in operation until 1990. The soils at these ranges are scheduled to be tested in 1995 to determine the presence or absence of lead contamination.	Determine if lead has impacted soils
C4	Railroad Parcel	Site C4 is located in the southwest portion of the station in the vicinity of Building 84. The site is a 1.28-acre, triangular-shaped parcel that was once owned by the Pennsylvania, Ohio, and Detroit Railroad. Activities conducted on site are unknown.	Locate the parcel and determine if soil and/or groundwater have been impacted by past use
C5	Howitzer Spill Site	Site C5 is located in two areas of the station: east of Building 73 and southeast of Facility 92. In 1989, a howitzer operated by the U.S. Army Reserves was found to be leaking diesel fuel onto an asphalt surface while it was parked next to Building 73 (C5a). The howitzer was removed to an open area adjacent to Facility 92 (C5b), where it continued to leak. It is estimated that 20 gallons were released at each location. The soil at Facility 92 was excavated, although no documentation exists that confirms that all the contamination was removed. The remediation efforts at Building 73 are unknown.	Determine if all contaminated soil was removed during the original site remediation

Table 3.3-2. Installation Restoration Program Sites
Page 2 of 7

Site Number	Site Name	Site Location and Waste Description	RI/FS Objectives
D1	Disposal Area No. 1	Site D1 is located in the southern portion of the station, west of Building 110, and south of the West Branch of Little Beaver Creek. The site is approximately 1.5 acres in size and was used for disposal of construction debris; hardfill; small quantities of waste oil; and possible paint thinner, asbestos, and electronic parts. The disposal site was utilized between 1950-1955; however, some construction materials may have been deposited on site at a later date. The debris deposits range in depth from 10-20 feet, and are currently covered with soil. Site D1 was originally identified during the 1982 Phase I - Records Search and received an HARM score of 48. In an attempt to identify the presence or absence of groundwater contamination, five groundwater monitoring wells were installed in 1988 and an additional three wells were installed in 1989 by the AEHA downgradient from Site D1. During three rounds of groundwater sampling, benzene, vinyl chloride, and trichloroethylene were detected in a monitoring well east of Site D1; a monitoring well further to the northeast detected benzene, ethyl benzene, toluene, and xylene. Five monitoring well casings collapsed in 1991 due to poor construction; however, all eight monitoring wells were replaced in August 1994 to continue groundwater monitoring.	Characterize groundwater and further investigate the shallow aquifer by obtaining groundwater samples from the bottom of the aquifer
D2	Disposal Area No. 2	Site D2 is located in the south-central portion of the station, immediately south of Grounds Maintenance (Building 31). The site consists of a small area of construction rubble deposited on site during the 1950s. The debris is believed to be nonhazardous in nature, and is presently covered with soil. The site was investigated during the Phase I - Records Search but not HARM scored, and was not included in the Gentile AFS IRP. However, this site was recently identified as requiring investigation to support station closure efforts.	Determine if any hazardous substances have been disposed of on site, and determine if soil and/or groundwater have been impacted
D3	Old Salvage Yard	Site D3 is located in the southern portion of the station, south of Disposal Area 1 (D1), and southwest of Building 110. This site was used from the 1950s to the 1960s for burning rubbish. Small amounts of construction rubble, electronic parts, and scrap materials may also be buried on site. The site was identified during the 1982 Phase I - Records Search; due to the nonhazardous nature of the materials deposited at the site, it was not HARM scored or incorporated into the IRP. However, the site was recently identified as a site requiring investigation in support of station closure efforts.	Determine if any hazardous substances have been disposed of on site, and determine if soil and/or groundwater have been impacted

Table 3.3-2. Installation Restoration Program Sites
Page 3 of 7

Site Number	Site Name	Site Location and Waste Description	RI/FS Objectives
D4	Low-Level Radioactive Waste Disposal Site No. 1	Site D4 is located in the southern portion of the station, northwest of Disposal Area 1 (D1) and immediately north of the West Branch of Little Beaver Creek. It is believed that electron tubes were buried approximately 10-15 feet below the surface during the mid-1950s; these tubes may contain low-level radioactive material. Sampling conducted in 1979 found no elevated levels of radionuclides in the soils. The site was originally identified during the 1982 Phase I - Records Search and received an HARM score of 36 due to the nature of the possible on-site contamination and proximity to surface water. However, the site was not recommended for further investigation following the Phase I - Records Search. The site is currently covered with soil and has been revegetated.	Locate disposal site and screen for possible radioactivity
D5	Low-Level Radioactive Waste Disposal Site No. 2	Site D5 is located beneath the softball diamond (Facility 302) near the intersection of Madison Street and Liberty Road. An unknown amount of electron tubes were believed to be buried in a trench and covered with 8-12 feet of soil. These activities took place during the late 1940s and early 1950s. This site was originally identified during the 1982 Phase I - Records Search; due to its proximity to the surface drainage and the radioactive nature of the on-site waste, it received an HARM score of 37. However, the site was not recommended for further investigation following the Phase I - Records Search.	Locate disposal site and screen for possible radioactivity
M1	Hydraulic Lift in Motor Pool	Site M1 is located in the western portion of the station at Building 11. In the early 1990s, hydraulic lifts were found to be leaking. Approximately 90 gallons of hydraulic fluid may have been released on site.	Determine the presence and extent of soil and/or groundwater contamination due to the leaking hydraulic lifts
M2	Transformer Failure Site	Site M2 is located in the northern portion of the station outside of Building 81. A transformer containing PCBs may have leaked into an adjacent gravel area.	Determine if PCBs are present in the soils
M3	Waste Oil Feed Area	Site M3 is located at the northeast corner of Building 81. Waste oil was disposed of in a UST located on site. Spills may have occurred while the UST was filled using a funnel.	Determine if waste oil is present in the shallow soils underlying the pavement
M4	Compressor Room	Site M4 is located in Building 2 in the northern part of Gentile AFS. Oil-stained gravel has been identified around the emergency generator.	Determine the extent of oil contamination in the gravel area adjacent to the site
M5	Staining in Shop	Site M5 is located in Building 4 in the central part of the station. Surface staining has been identified in the vicinity of several shops including the carpentry, plumbing, electrical, and welding shops.	Determine if unidentified spill material is hazardous

Table 3.3-2. Installation Restoration Program Sites
Page 4 of 7

Site Number	Site Name	Site Location and Waste Description	RI/FS Objectives
M6	Floor Stains	Site M6 is located in the southern portion of Building 73. Floor stains were noted in the vicinity of solvents, antifreeze, and motor oil stored on site to maintain the four emergency generators.	Determine if spills associated with emergency generators contain PCBs
M7	Civil Engineering Storage	Site M7 is located at Buildings 83 and 85 in the southwest area of the station. Building 83 is utilized to store roads and grounds maintenance equipment; Building 85 is utilized for storing deicing salt.	Determine if the storage of salt in Building 85 has impacted the soils and/or groundwater, and if past storage activities in Building 83 have impacted surrounding soils
O1	Paint Drain Line (Steam Tunnel)	Site O1 is located in Building 4 in the central part of the station. This site is a paint spray booth that drains into a paint drain line and an oil/water separator.	Determine if the oil/water separator and drain line have contaminated the surrounding soils
O2	Oil/Water Separators (Building 11)	Site O2 is located in the western part of the station at Building 11. Three oil/water separators are located on site. A 220-gallon separator, installed in 1944, and a 475-gallon separator, installed in 1982, are still active. A 130-gallon separator constructed in 1954 is inactive. The oil/water separators are fed by floor drains located throughout the building and discharge to the sanitary sewer. Extensive POL stains have been identified at Building 11. Additionally, hazardous materials and hazardous waste storage areas are located in the vicinity of the floor drains.	Determine if oil/water separators have contaminated surrounding soils
O3	Oil/Water Separator (Building 46)	Site O3 is located in the southeastern part of the station at Building 46. This oil/water separator is a 26-gallon ceramic separator installed in 1984 and located in the acid neutralization sump. The separator is used to separate paint and water.	Determine if oil/water separator has contaminated surrounding soils
O4	Oil/Water Separators (Building 74)	Site O4 is located at Building 74 in the central portion of Gentile AFS. Two oil/water separators and a floor drain are associated with this site. The oil/water separators are both 250-gallons in size and were installed in 1980. All three discharge to the sanitary sewer. Building 74 is used for vehicle maintenance; several floor stains have been identified.	Determine if oil/water separators have contaminated surrounding soils
O5	Oil/Water Separator (Building 73)	Site O5 is located in the central portion of the station at Building 73. This 250-gallon oil/water separator was constructed in 1981 and drains a wash rack utilized for washing a howitzer located outside Building 73.	Determine if oil/water separator has contaminated surrounding soils

Table 3.3-2. Installation Restoration Program Sites
Page 5 of 7

Site Number	Site Name	Site Location and Waste Description	RI/FS Objectives
R1	Wash Rack that Drains to the West Branch of Little Beaver Creek	Site R1 is located at the southeast end of Building 83. A concrete pad with a floor drain was utilized to wash various types of equipment with the wash water discharging directly into the West Branch of Little Beaver Creek.	Determine if wash rack activities have impacted soils, creek sediments, and/or surface water in and adjacent to the creek
R2	Floor drain to Infiltration Pit (Building 73)	Site R2 is located in the central part of the station within Building 73. Oil and grease stains have been identified under four emergency generators. The floor slopes towards a floor drain that discharges to a stained gravel pit outside of the building.	Determine if the soils and/or groundwater have been impacted by the discharge from the building floor drain
R3	Wash Rack (Building 73)	Site R3 is located on the east side of Building 73. This site is a concrete wash rack that was once utilized for washing the U.S. Army Reserves howitzer. The wash rack discharges to an oil/water separator (IRP site 05).	Determine if utilization of the wash rack has resulted in contamination of the surrounding soils
S1	Coal Storage Area	The coal storage area is located along the western station boundary between the heating plant (Building 17) and Lafayette Street. This site is an open area approximately 300 feet by 150 feet in size, which has been used for coal storage for the heating plant since 1945. It was covered by concrete in the mid-1980s. In the past, waste oils, solvents, and paint thinners were poured over the coal prior to incineration at the heating plant. Much of these liquid wastes were absorbed into the coal; however, some wastes are believed to have entered the soil and some were washed away during periods of rainfall into the storm drain system, and eventually into the West Branch of Little Beaver Creek. In 1977, two samples were taken of typical coal pile runoff. The sample results indicated that the runoff was not a problem; however, the samples were not analyzed for chromium or copper. The coal storage area was identified during the Phase I - Records Search and received an HARM score of 46 since it poses a potential for contaminating both surface and groundwater. Although not recommended for further investigation under the IRP, runoff monitoring was recommended	Determine if the storage of coal prior to installation of a concrete foundation resulted in contamination of soil and/or groundwater, and determine if the drainage ditch adjacent to the site contains contaminates

Table 3.3-2. Installation Restoration Program Sites
Page 6 of 7

Site Number	Site Name	Site Location and Waste Description	RI/FS Objectives
S2	Reserve Coal Storage Area	This site is located in the southern portion of the station, south of Disposal Site 1 (D1), and southwest of Building 110. This open area was used for additional coal storage; however, no liquid wastes were believed to have been disposed of at this site. Additionally, no runoff sampling has taken place. This site is approximately 0.2 acre in size and was in operation from the mid-1960s to mid-1980s. The site was identified during the 1982 Phase I - Records Search and received an HARM score of 38, since the coal pile runoff may be a potential source of contamination. Additionally, the site was not recommended for further IRP investigation.	Determine the presence and extent of soil and/or groundwater contamination as a result of coal storage
S3	Pesticide Storage	Site S3 is located at Building 80 along the western station boundary. This former paint storage facility is now used as the station entomology shop, and stores pesticides and herbicides.	Determine if pesticides or other chemicals stored in this building have impacted the surrounding soils and/or groundwater prior to paving the area. Drain sediments will also be characterized
S4	Herbicide Storage	Site S4 is located in the southwest portion of Gentile AFS at Building 31. This building has a concrete floor with no floor drains, and was used for the storage of dry, bagged chemicals prior to 1982. Chemicals were stored in quantities from 300-3,000 pounds. Chemicals were later transferred to Building 80. The site also includes an aboveground storage tank at the rear of Building 31 that stored gasoline.	Determine if the storage of herbicides and pesticides left residue on the floor; determine if a release from an aboveground storage tank located at the rear of the building has impacted the surrounding soils
S5	PCB Storage Area	Site S5 is located in Building 3 in the central part of the station. Transformers and other electrical equipment containing PCBs were temporarily stored at this location prior to disposal off station. The site has a concrete floor with a concrete berm.	Determine if past PCB storage has resulted in surface contamination
S6	Paint Storage Area	Site S6 is located in the western area of the station at Building 69. This building is used for the storage of paint and paint additives. There were also 1- and 5-gallon containers of adhesives, sealants, and solvents stored at this location, as well as 55-gallon drums of floor sealant and solvents including MEK, PCE, acetone, toluene, and xylene. A paint equipment wash pad is located north of the building.	Determine the presence of staining and contamination, and investigate soils at the water fill stand north of the building
S7	Chemical Storage (under cooling tower)	Site S7 is located south of Building 81 in the northern part of the station. This site once stored chemicals, such as algae inhibitors, under the cooling tower.	Determine if chemicals stored on-site have impacted the surrounding soils

Table 3.3-2. Installation Restoration Program Sites
Page 7 of 7

Site Number	Site Name	Site Location and Waste Description	RI/FS Objectives
S8	PCB Storage Area	Site S8 is located at Building 75 in the south-central part of the station. This site was used to store empty transformers during the 1960s and 1970s.	Determine the presence or absence of PCB residue in shallow soils
S9	Cobalt Storage	Site S9 is located at Building 45 in the southeast corner of the station. A source of cobalt was once utilized at Building 45; however, the disposition of the cobalt is unknown.	Determine if the permitted cobalt remains in the building
T1	Hydrofluoric Acid Neutralization and Settling Basin (Building 46)	This site is located in the eastern portion of the station at the southwest corner of Building 46. The site is two concrete chambers with combined dimensions of 12 feet long, 6 feet wide, and 5 feet deep. It was used as a neutralization and settling pond for the waste hydrofluoric acid generated by the crystal etching operations conducted in Building 46. The basin was used from 1957 to 1980. The site was originally identified during the Phase I - Records Search in 1982. Due to its low potential for contamination, this site received an HARM score of 4 and was not recommended for further investigation under the IRP.	Determine if the acid neutralizing tank has leaked into surrounding soils
T2	Acid Neutralizing Tank (Building 73)	Site T2 is located within Building 73 in the central portion of Gentile AFS. This site consists of an underground acid neutralization tank. Battery acid was once disposed of in this tank.	Determine if tank has leaked resulting in contamination of the surrounding soils
-	Sanitary Sewer System	Located throughout the station. Wastewater is pumped to the city of Dayton and Montgomery County wastewater treatment systems. Hazardous substances may have accessed the sewer system from industrial facilities.	Determine the presence and extent of contamination
-	Storm Drain System	Located throughout the station. All areas of Gentile AFS discharge into the West Branch of Little Beaver Creek. Hazardous substances may have accessed the creek as a result of runoff.	Determine the presence and extent of contamination

AEHA = Army Environmental Hygiene Agency
AFS = Air Force Station
HARM = Hazardous Assessment Rating Methodology
IRP = Installation Restoration Program
MEK = methyl ethyl ketone
PCB = polychlorinated biphenyl
PCE = tetrachloroethylene
POL = petroleum, oil, and lubricants
RI/FS = remedial investigation/feasibility study
UST = underground storage tanks

Additionally, in 1994 Gentile AFS identified an additional 30 sites of potential contamination that are being investigated as part of a stationwide RI/FS. These sites include the nine IRP sites identified during previous investigations, as well as a stationwide characterization of soil and groundwater, and upstream characterization of the West Branch of Little Beaver Creek surface water. Table 3.3-2 provides a description of each site as well as identifies RI/FS objectives.

Closure Baseline. The closure of Gentile AFS will not affect the ongoing IRP activity. These IRP activities will continue in accordance with U.S. EPA, and state and local regulatory agency regulations to protect human health and the environment, regardless of the alternative chosen for reuse. The established RAB assures joint involvement in the IRP between the Air Force, federal and state regulators, and the local community.

IRP remedial activities will continue well past the December 1996 closure date for Gentile AFS. Table 3.3-2 lists the sites associated with the IRP. The OL will oversee the coordination of the contractors and assure that U.S. EPA, Ohio EPA, and local regulatory agency concerns are addressed. The Air Force will retain easements in order to perform operations and maintenance on all remediation systems. Funding for the restoration activities at closure installations was authorized by Congress in 1991 specifically for that purpose. It is anticipated that future authorization acts will continue to fund environmental restoration activities at closing installations.

Prior to the transfer of any property at Gentile AFS, the Air Force must comply with the provisions of CERCLA §120(h) as amended. CERCLA §120(h) requires that, before property can be transferred from federal ownership, the United States must provide notice of specific hazardous substance activities and conditions on the property and, when there have been any such hazardous substance activities, include in the deed a covenant warranting that all remedial action necessary to protect human health and the environment with respect to any hazardous substance remaining on the property has been taken before the date of such transfer. Furthermore, for all government property transfers by deed, a covenant must also warrant that any additional remedial action found to be necessary after the date of such sale or transfer shall be conducted by the United States or any other party.

The Air Force must complete the CERCLA process for the contaminated sites on Gentile AFS and provide the assurances required by CERCLA §120(h) for all properties transferred. The combination of these requirements may delay parcel disposition or conveyance and affect reuse.

The Air Force and the DLA is committed to the identification, assessment, and remediation of the contamination from hazardous substances at Gentile AFS. This commitment will assure the protection of public health as well as

restoration of the environment. Additionally, the Air Force and the DLA will aggressively work with the regulatory community to ensure that parcel disposition or conveyance occurs at the earliest possible date so as not to impede the economic redevelopment of the area through reuse of Gentile AFS. Quantification of those delays based on the conceptual plans for all redevelopment alternatives and what is currently known at this stage of the IRP is not possible.

3.3.4 Storage Tanks

Underground storage tanks (USTs) are subject to federal regulations within RCRA, 42 U.S.C. 6991, and U.S. EPA implementing regulations 40 CFR 280. These regulations were mandated by the Hazardous and Solid Waste Amendments of 1984. The state regulates USTs under the Ohio Underground Storage Tank regulations, OAC 1301-7. These regulations are enforced by the Bureau of Underground Storage Tanks, which is a division of the state Fire Marshal's Office. Aboveground storage tanks and oil/water separators are not regulated by the state; however, aboveground storage tanks are managed using Article 79 of the Uniform Fire Code, and Chapters 30, 58, and 329 of the American Fire Protection Association guidelines for storage of flammable liquids.

Preclosure Reference. Gentile AFS currently has 4 state-registered USTs in place, of which only 3 are active. Table 3.3-3 provides an inventory of all USTs in place. All USTs are to be removed or replaced prior to station closure. All removal actions will be conducted in accordance with Ohio UST regulations, OAC 1301-7, and Ohio Fire Code requirements. Additionally, all USTs will be further investigated by the Bureau of Underground Storage Tanks to support the station closure activities.

Table 3.3-3. Inventory of Underground Storage Tanks

Facility No.	Capacity (gallons)	Content	Date of Installation	Construction Material
26	600	Gasoline	1992	Fiberglass [(b)]
66[(a)]	550	Gasoline	1954	Steel
81	20,000	Diesel fuel	1992	Fiberglass[(b)]
81	2,500	Waste oil	1992	Fiberglass[(b)]

Notes: (a) Tank Inactive
(b) Tank is double walled and has automatic leak detection and spill/overfill protection.

Source: U.S. Air Force, 1995b.

There are 14 painted, steel aboveground storage tanks currently active on station (Table 3.3-4). With the exception of one motor oil tank and one waste oil tank, the aboveground storage tanks are either diesel fuel or gasoline tanks associated with emergency electric power generators.

Table 3.3-4. Inventory of Aboveground Storage Tanks

Facility No.	Capacity (gallons)	Content
8	30	Gasoline
17	30	Gasoline
31	200	Gasoline
44	280	Waste Oil
45	30	Gasoline
73	275	Diesel fuel
73	275	Diesel fuel
73	275	Diesel fuel
73	275	Diesel fuel
81	280	Motor oil
81	180	Diesel fuel
81	180	Diesel fuel
81	180	Diesel fuel
81	180	Diesel fuel

Source U.S. Air Force, 1995b.

Nine oil/water separators are presently in use and located throughout Gentile AFS (Table 3.3-5). These oil/water separators range in size from 26 gallons to 475 gallons. The outfall for all oil/water separators is the sanitary sewer system. All oil/water separators are scheduled to be removed and investigated as part of the closure process.

Table 3.3-5. Inventory of Oil/Water Separators (as of December 1993)

Facility No.	Capacity (gallons)
4	475
11	220
11	130
11	130
46	26
73	475
74	250
74	250
74[a]	Unknown

Note: (a) Oil/water interceptor.

Source: U.S. Air Force, 1995a.

Closure Baseline. All USTs at Gentile AFS will be deactivated and removed. The aboveground storage tanks will be purged of contents to minimize firehazards at closure and left in place. All oil/water separators will be pumped out, removed, and any contamination associated with the separator will be remediated.

3.3.5 Asbestos

Asbestos-containing material (ACM) remediation is regulated by the U.S. EPA and the Occupational Safety and Health Administration (OSHA). The state of Ohio also has regulations pertaining to ACM remediation. Asbestos fiber emissions into the ambient air are regulated in accordance with Section 112 of the Clean Air Act, which established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The NESHAP regulations address the demolition or renovation of buildings with ACM. The Asbestos Hazard Emergency Response Act (AHERA), P.L. 99-519, and P.L. 101-637 provide the regulatory basis for handling ACM in kindergarten through twelfth grade school buildings. AHERA and OSHA regulations cover worker protection for employees who work around or remediate ACM. The removal of asbestos is regulated under the Ohio Asbestos Abatement Law, OAC 3701-34, and is enforced by the Ohio Department of Health. Disposal of asbestos is regulated under the Ohio Solid Waste Disposal Regulations, OAC 3745-27.

Renovation or demolition of buildings with ACM has a potential for releasing asbestos fibers into the air. Asbestos fibers could be released due to disturbance or damage from various building materials such as pipe and boiler insulation, acoustical ceilings, sprayed-on fireproofing, and other material used for soundproofing or insulation.

Preclosure Reference. The current Air Force practice is to manage or abate ACM in active facilities, and abate ACM following regulatory requirements prior to facility demolition. Abatement of ACM occurs when there is a potential for asbestos fiber release that would affect the environment or human health.

In October 1986, a visual survey was conducted by Gentile AFS Environmental Management Office personnel to identify areas of friable asbestos that may pose a threat to human health. As a result of the survey, damaged ACMs were abated or encapsulated to prevent the release of friable ACM. Minor asbestos abatement projects are conducted by the Civil Engineering Abatement Team. Larger projects, such as those conducted at Buildings 6 and 49 in which all ACM was abated, are done by outside contractors.

Closure Baseline. Asbestos will be managed, encapsulated, or abated as necessary to protect human health. Beyond that, an analysis will be conducted to determine the cost effectiveness of abating ACM versus the impacts of ACM on the market value of the property, when sale or other disposal of the property is planned. ACM will be abated if a building is, or is intended to be, used as a school or child care facility. Asbestos, which is in an unsafe condition, will be abated in accordance with Air Force policy and applicable health laws, regulations, and standards if it is determined that a health hazard exists.

A stationwide survey for ACM will be conducted in accordance with FPMR disclosure requirements prior to property disposal.

3.3.6 Pesticide Usage

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. §§136-136y, regulates the registration and use of pesticides. Pesticide management activities are subject to federal regulations contained in 40 CFR 162, 165, 166, 170, and 171. The state requires that a commercial applicator of pesticides obtain a license from the Ohio Department of Agriculture under the Ohio Pesticide Law, ORC 291.

Preclosure Reference. Pest management at Gentile AFS is the responsibility of the station Entomologist, and includes development and implementation of an annual Pest Management Plan; and weed abatement of all sidewalks, parking lots, and maintenance of the putting greens. Pesticides are procured through station supply and stored at the Pest Management and the Grounds Maintenance shops. Table 3.3-6 lists the inventory of pesticides used at Gentile AFS. These facilities have been identified by station personnel to undergo site investigations (Sites S3 and S4) in support of the station closure effort (see Figure 3.3-1). Most pesticide applications are conducted during the spring and summer, and all applications are the responsibility of the station Entomologist, who is a DOD-certified pesticide applicator; this certification is recognized by the state of Ohio.

Pest Management practices are inspected biennially by the U.S. Army Center for Health Promotion and Preventative Medicine (formally the AEHA) and by the state on a random basis.

Closure Baseline. At the time of closure, the OL will continue to use pesticides, herbicides, and fungicides on an as-needed basis, for pest management and grounds maintenance. These materials will be applied by certified applicators.

3.3.7 Polychlorinated Biphenyls

Commercial PCBs are industrial compounds produced by chlorination of biphenyls. PCBs persist in the environment, accumulate in organisms, and concentrate in the food chain. PCBs are used in electrical equipment, primarily in capacitors and transformers, because they are electrically nonconductive and stable at high temperatures.

The disposal of these compounds is regulated under the federal Toxic Substances Control Act (TSCA), which banned the manufacture and distribution of PCBs, with the exception of PCBs used in enclosed systems. By federal definition, PCB equipment contains 500 parts per million (ppm) PCBs or more; whereas PCB-contaminated equipment contains PCB

Table 3.3-6. Pesticide Inventory (as of December 1993)

Name	Quantity	Storage Facility
Insecticide		
Combat®	99 pounds	80
Drione Dust	1 pound	80
Dursban Emulsion	0.8 gallon	80
Dursban TC	2 gallons	80
Gencor Plus C&C	7 gallons	80
Malathion (57 percent)	>0.25 gallon	80
Maxforce Ant Traps®	18 pounds	80
Pyrethrum BP-300	>0.25 gallon	80
Whitmire PT-240®	0.5 gallon	80
Whitmire PT-270®	1.5 gallons	80
Whitmire PT-400 Ultraban®	0.5 gallon	80
Whitmire PT-515 II®	2.8 gallons	80
Whitmire PT-565 Plus®	1.5 gallons	80
Herbicides		
Pramitoz	150 pounds	80
Round-Up®	18.75 gallons	80
Scotts No. 8670®	28 pounds	31
Scotts No. 8774®	107 pounds	31
Scotts No. 83144®	1,116 pounds	31
Super Trimec	42.5 gallons	80
Trimec	3 gallons	80
Fungicide		
Scotts No. 8573®	116 pounds	31

® = Registered trademark
\> = greater than

concentrations of 50 ppm or greater, but less than 500 ppm. The U.S. EPA, under TSCA, regulates the removal and disposal of all sources of PCBs containing 50 ppm or more; the regulations are more stringent for PCB equipment than for PCB-contaminated equipment.

Preclosure Reference. A comprehensive PCB survey of Air Force-owned transformers was conducted by the Environmental Management Office in 1991. The survey originally identified 16 transformers as PCB-contaminated equipment and 7 transformers as PCB equipment. The DLA is currently in the process of removing all transformers containing over 50 ppm PCBs. Table 3.3-7 provides an inventory of these transformers and their PCB concentrations that currently remain at Gentile AFS. Additionally, a small transformer remaining to be sampled to determine its PCB concentration is also listed in Table 3.3-7. When PCB-containing transformers are removed from service, they are stored at the PCB storage area in Building 3 prior to disposal off station. This storage area, as well as the former PCB storage area in Building 75, have been identified as sites requiring investigation to support closure (Sites S5 and S8) (see Figure 3.3-1 and Table 3.3-2).

Table 3.3-7. Transformers Containing 50 ppm or Greater PCBs

Location/ Facility	Serial Number	Manufacturer	kVA	ppm
1	21502-A0I	ITE	500	790,000
17	B973153	General Electric	75	115.2
17	696635	General Electric	25	85.9
17	B973152	General Electric	75	84.9
17	B973151	General Electric	75	80.5
17	696632	General Electric	25	74.4
47	81D2180402	Dowzer	300	64.1
74	81D2180401	Dowzer	300	69.7
74	C214294	General Electric	10	61.8
81	35869	Niagara	1,500	147,000.0
81	32831	Niagara	1,500	22,600.0
POLE 3	4932406	General Electric	20	to be tested

kVA = kilovolt ampere
PCB = polychlorinated biphenyl
ppm = parts per million

Source: U.S. Air Force 1995a.

Closure Baseline. No federally regulated PCB or PCB-contaminated equipment under control of the Air Force will remain at closure. The PCB storage areas identified under the (Site S5 [Building 3] and Site S8 [Building 75]) will be properly closed out prior to property disposal.

3.3.8 Radon

Radon is a naturally occurring, colorless, and odorless radioactive gas that is produced by radioactive decay of naturally occurring uranium. Uranium decays to radium, of which radon gas is a by-product. Radon is found in high concentration in rocks containing uranium such as granite, shale, phosphate, and pitchblende. Atmospheric radon is diluted to insignificant concentrations. Radon that is present in soil, however, can enter a building through small spaces and openings, accumulating in enclosed areas such as basements. The cancer risk caused by exposure through the inhalation of radon is currently a topic of concern.

There are no federal or state standards regulating radon exposure at the present time. The U.S. EPA offers a pamphlet, "A Citizen's Guide to Radon" (U.S. Environmental Protection Agency, 1992a), which offers advice to persons concerned about radon in their homes. U.S. Air Force policy requires implementation of the Air Force Radon Assessment and Mitigation Program to determine levels of radon exposure of military personnel and their dependents. The U.S. EPA has made testing recommendations for both

residential structures and schools. For residential structures, using a 2- to 7-day charcoal canister test, a level between 4 and 20 picocuries per liter (pCi/l) should lead to additional screening within a few years. For levels of 20 to 200 pCi/l, additional confirmation sampling should be accomplished within a few months. If the level is in excess of 200 pCi/l, the structure should be immediately evacuated. Schools are to use a 2-day charcoal canister test; if readings are 4 to 20 pCi/l, a 9-month school year survey is required. If levels are below 4 pCi/l, no further action is recommended. Table 3.3-8 summarizes the recommended radon surveys and action levels.

Table 3.3-8. Recommended Radon Surveys and Mitigations

Facility	U.S. EPA Action Level[a]	Surveys and Mitigations
Residential	4 to 20 pCi/l	Additional screening. Expose detector for 1 year. Reduce radon levels within 3 years if confirmed high readings exist.
Residential	20 to 200 pCi/l	Perform follow-up measurements. Expose detectors for no more than 6 months.
Residential	Above 200 pCi/l	Follow-up measurements. Expose detectors for no more than one week. Immediately reduce radon levels.
	2-Day Weekend Measurement	
School	4 to 20 pCi/l	Confirmatory 9-month survey. Alpha track or ion chamber survey.
School	Greater than 20 pCi/l	Diagnostic survey or mitigation.

Notes: Congress has set a national goal for indoor radon concentration equal to the outdoor ambient levels of 0.2 to 0.7 pCi/l.
(a) For levels below 4 pCi/l, no further action is recommended.
EPA = Environmental Protection Agency
pCi/l = picocuries per liter

Source: U.S. Environmental Protection Agency, 1992a.

Preclosure Reference. A stationwide radon assessment was conducted at Gentile AFS in March 1989. The assessment consisted of 40 samples taken from all occupied facilities on the station. One sample taken in the basement of the Commander's Residence detected a radon concentration of 4.8 pCi/l. As a result, a sub-slab ventilation system was installed beneath the concrete flooring in October 1989 to bring radon levels below action levels. Two additional samples were taken following the opening of the Child Development Center; neither sample detected radon concentrations above 4 pCi/l.

Closure Baseline. To mitigate radon levels above action levels, a sub-slab ventilation system has been installed at the Commanders Residence; no further actions are required.

3.3.9 Medical/Biohazardous Waste

Current federal regulations do not provide for regulation of medical wastes, but do allow for states to individually regulate medical wastes. The state regulates medical waste under the Ohio Infectious Wastes regulations, OAC 3745-27-30 through 37.

Preclosure Reference. The dispensary at Gentile AFS is operated by the 645th Medical Group, headquartered at Wright-Patterson AFB. This facility provides occupational medical services including treatment of on-the-job injuries or illness, conducts physical examinations, dispenses over the counter medications, and provides occasional immunizations and allergy shots. These services are provided to personnel stationed at Gentile AFS. The dispensary generates an average of 2 pounds of medical waste monthly. The waste is picked up monthly by a permitted contractor and disposed of off the station in accordance with state regulations. Expired pharmaceuticals are taken to Wright-Patterson AFB for disposal.

X-ray operations conducted at the Quality Assurance Laboratory in Building 46 generate photochemical wastes, which are brought to the accumulation point at Building 3 and disposed of through DRMO.

Closure Baseline. The dispensary will be inactive and no biohazardous waste will be generated at station closure. Existing biohazardous waste will be processed, removed, and properly disposed of prior to closure in accordance with appropriate federal, state, and local regulations.

3.3.10 Ordnance

Preclosure Reference. A Former Small Arms Firing Range (Site C3) and a Former Skeet Range (also part of Site C3) are located in the southern portion of the station (see Figure 3.3-1 and Table 3.3-2). These facilities were constructed between 1957 and 1961, and remained in operation until 1990. The Former Small Arms Firing Range was approximately 50 yards long by 25 yards wide. Small arms proficiency training was conducted by firing weapons from an area located adjacent to Building 110 into a metal plate that deflected bullets down into a sand trap. The firing range was enclosed by sidewalls and overhead ricochet baffles, and was removed in 1990. The Former Skeet Range was located in the open field west of the Former Small Arms Firing Range and was also operational from 1961 to 1990.

Lead bullets and lead shot from previous small arms and skeet activities may remain at this site; therefore, the soils associated with these sites will be investigated as part of the IRP (Section 3.3.3).

Closure Baseline. The Former Small Arms Firing Range will be cleared of lead bullets; testing and remediation of lead-contaminated soils will be conducted as part of the IRP prior to disposal of that parcel.

3.3.11 Lead-Based Paint

Human exposure to lead has been determined to be an adverse health risk by agencies such as OSHA and U.S. EPA. Sources of exposure to lead are through dust, soils, and paint. Waste containing levels of lead exceeding a maximum concentration of 5.0 milligrams per liter, as determined using the U.S. EPA Toxic Characteristic Leaching Procedure, which simulates the leaching behavior of landfill wastes, are defined as hazardous under 40 CFR 261. If a waste is classified as hazardous, disposal must take place in accordance with U.S. EPA and state hazardous wastes rules.

In 1973, the Consumer Product Safety Commission (CPSC) established a maximum lead content in paint of 0.5 percent by weight in a dry film of newly applied paint; in 1978, under the Consumer Product Safety Act (P.L. 101-608, as implemented by 16 CFR 1303), the CPSC lowered the allowable lead level in paint to 0.06 percent. The act also restricted the use of lead-based paints in nonindustrial facilities. In 1989, the U.S. EPA established a cleanup criterion for lead in soil of 500 to 1,000 ppm total lead when the possibility of child contact exists. Specific cleanup levels are based on the characteristics of individual sites. The Lead-Based Paint Poisoning Prevention Act, 42 U.S.C. 4821, et seq., as amended by the Residential Lead-Based Paint Hazard Reduction Act of 1992 (P.L. 102-550, Title X), requires that lead-based paint hazards in federal housing facilities be identified and eliminated. In 1993, the federal OSHA, under 29 CFR 1926, extended the permissible exposure limit for general industrial workers of 50 micrograms per cubic meter (mg/m^3) of air to include workers in the construction field.

To ensure that any threat to human health and the environment from lead-based paints has been identified, Air Force policy requires that a lead-based paint survey of high-priority facilities be conducted at Gentile AFS. High-priority facilities consist of military family housing, transient lodging facilities, schools, and other facilities frequented by children, including day care facilities.

Preclosure Reference. A lead-based paint survey was conducted in fall 1993 at five facilities at Gentile AFS. The five facilities included the Child Development Center, the Pool Bath House, the Commander's Residence, the Visiting Officers' Quarters, and the playground located in the southern portion of the station. These facilities represent areas of potential lead-based paint exposure to children. The survey consisted of interior and exterior paint sampling for all facilities; soil sampling at the playground, Child Development Center, and the Commander's Residence; and paint samples taken from furniture within the Child Development Center. A total of 55 samples were collected, of which 47 were paint samples and 8 were soil samples. Nine paint samples were determined to be lead-based paint: three samples taken from window sills and door frames at the Commander's Residence, three samples associated with exterior walls at the Pool Bath

House, and three samples associated with the metal furniture found in the Child Development Center. The furniture within the Child Development Center has been removed; however, the lead-based paint within the Commanders' Residence and the Pool Bath House are yet to be abated.

Closure Baseline. No additional lead-based paint surveys are presently scheduled for Gentile AFS. However, the Air Force will acknowledge that lead-based paint may be present in all facilities built during or prior to 1978 that had not been previously surveyed for lead-based paint. Therefore, disclosure will be provided on property leases and other transfer documents.

3.4 NATURAL ENVIRONMENT

This section describes the affected environment for natural resources: geology and soils, water resources, air quality, biological resources, and cultural resources.

3.4.1 Geology and Soils

Geology and soils include those aspects of the natural environment related to the earth that may be affected by the proposed station disposal and reuse. These features include physiography, geologic units and their structure, the presence/availability of mineral and related natural resources, the potential for natural hazards, and the soils conditions and capabilities. Water resources, which are related to geology and soils, are described in Section 3.4.2.

In general, the ROI for geology is the regional geologic setting (to provide context) and specific features on the station (to determine impacts); the ROI for soils is the station area.

3.4.1.1 Geology

Physiography

Gentile AFS is located in the Till Plains section of the Central Lowland Physiographic Province (Norris and Spieker, 1966). The physiography of the area is nearly flat to gently rolling, with entrenched river valleys that generally have flat floodplains. The average elevation of the area is approximately 1,000 feet. On-station topography is generally flat with total elevation change of approximately 20 feet. The West Branch of Little Beaver Creek flows from west to east across the southern portion of the station, and is the dominant local physiographic feature.

Geology

The geology of the station area includes two main types of geologic units: unconsolidated sands and gravel from Pleistocene (approximately 2 million to

10,000 years ago) glaciation, and much older Silurian-and Ordovician- age (greater than approximately 395 million years ago) sedimentary rock units under the glacial deposits.

The glacial deposits vary in thickness from 20-50 feet in the highland areas, and up to 300 feet thick in the valley areas. In general, glacial deposits form a blanket of sediments over pre-glaciated topography; as a result, present topography is more gently rolling and less incised with drainage patterns that are typical of the pre-glaciated valley orientation. The current valleys are much broader and shallower from the deposition of the glacial sediments. However, in some cases, smaller pre-glaciated valleys have been completely buried with no current topographic expression. Gentile AFS lies in an upland till plain near the original headwaters of a pre-glaciated river valley that has been buried by 140-200 feet of glacial deposits (Schmidt, 1986).

Unconsolidated Pleistocene glacial till and outwash deposits represent the chief geologic unit in the station area (Schmidt, 1986). These materials were deposited in the last two periods of continental glaciation: the Illinoian and Wisconsin. The Illinoian glaciers are believed to have receded from the area some 200,000 years ago. Ice of the Wisconsin age covered much of Ohio as recently as 14,000 years ago (Norris and Spieker, 1966). Glacial till (deposits directly laid down by a glacier as it advances over the area), is composed of a heterogeneous mixture of clay, silt, sand, and gravel. Glacial outwash (deposits left by glacial meltwaters) is mostly composed of sand and gravel with lesser amounts of silt and clay. In the station area, the till deposits are reported to be up to 140 feet thick (Norris and Spieker, 1966). However, more recent data suggests that these till deposits may be as thick as 200 feet (Lockwood, Jones, and Beals, Inc., 1993).

Holocene alluvium, which is younger than the glacial deposits, occur locally along present drainage systems. Small areas of alluvium occur along the West Branch of Little Beaver Creek. These deposits are composed of glacial deposits that have been reworked by recent erosional action and are represented by the clay, silt, and silty sand deposits adjacent to the West Branch of Little Beaver Creek (Engineering Science, 1982).

Underlying the glacial deposits in the Dayton area are bedrock units of the Silurian (395 to 435 million years ago) and Ordovician (435 to 500 million years ago) Periods. The Silurian limestones (part of the Niagara Group and Brassfield Formations) are generally found in the higher elevations of the pre-glaciated topography, and the Ordovician shales and limestones are found in lower elevations. In the area west of the station, the Silurian Brassfield Limestone forms a narrow ridge. The Ordovician Richmond Group (shales and limestones) directly underlie Gentile AFS (Lockwood, Jones, and Beals, Inc., 1993). Additional older sedimentary units underlie these formations; however, because these would not affect or be affected by the Proposed Action or alternatives and since they are not expected to be involved with the IRP, they are not discussed further.

The primary structural feature is a regional warping of the bedrock units in which the bedrock has been gently folded into a broad anticline called the Cincinnati Arch. Dayton lies near the crest of this anticline, which trends northeast across and underlies most of central and western Ohio. At Gentile AFS, this arch has caused the bedrock to dip gently to the northeast, approximately parallel to the crest of the arch (Norris and Spieker, 1966; Brownocker, 1992).

Natural Resources

Mineral and related natural resources that occur in the Dayton area include sand, gravel, water, and minor amounts of other bedrock resources (Norris and Spieker, 1966). In addition, some fossil resources occur in the area.

The Dayton area contains many natural resources, the most abundant of which are sand and gravel. Commercial quantities of sand and gravel are available from the glacial outwash deposits that are generally found adjacent to the major river valleys. Of special interest are the large areas of kame moraine deposits where sand and gravel can easily be removed from hillsides. Most of the sand and gravel mined in the Dayton area is from these kame moraine deposits.

Gentile AFS is located in a highland area southeast of downtown Dayton on glacial till deposits. Glacial till deposits contain variable amounts of sand and gravel, but are generally considered a poor source of this resource (Norris and Spieker, 1966). Because of this, the quality of the sand and gravel on the station has not been evaluated.

Another natural resource in the Dayton area is limestone. However, because these deposits mostly occur in densely populated urban areas, they are generally not quarried (Norris and Spieker, 1966). No exposures of bedrock that could be a source of this resource are present at the station.

The Brassfield Limestone exposures in the Dayton area are described as being very fossiliferous, with the most common fossils being brachiopods and corals. The Richmond Group shales and limestones yield thousands of fossils throughout southwestern Ohio, with nearly all fossil families of the Ordovician represented (Rocque and Marple, 1970). The formations in which these fossils occur are located at least 150 feet below the surface at the station and, therefore, are not considered an important resource at the station.

There are Pleistocene-age fossils that occur in the glacial deposits throughout the state, but finds of scientific quality are rare. No Pleistocene-aged fossils have been found on the station.

Natural Hazards

The station is located in Seismic Zone 1 (International Conference of Building Officials, 1991), which indicates the region has a low potential of sustaining major damage from a large earthquake. However, in the 1930s and again in the 1980s, a series of earthquakes with up to a 5.5 magnitude (1938) on the Richter scale were recorded in western Ohio, centered near the community of Anna (Hansen, 1991). This area is approximately 55 miles north of the station and effects from similar magnitude quakes would be minimal in the Dayton area. As a result, seismic safety is not a major design requirement of the Uniform Building Code for structures in the area.

Based on local geology, there is little potential for ground collapse from sinkholes, landslides, liquefaction, or related natural hazards (Norris and Spieker, 1966; Schmidt, 1986; U.S. Department of Agriculture, 1976).

3.4.1.2 Soils. Soil development at Gentile AFS is dominated by two urban soils: the Crosby-Urban Land Complex, which covers the southern third of the installation around the West Branch of Little Beaver Creek; and the Urban Land Loamy Materials, which cover the remainder of the station. Properties of these soils are summarized in Table 3.4-1 and the areal extent of these soils is shown on Figure 3.4-1.

Crosby-Urban Land Complex soils occur in nearly level, upland, urban land on glacial till deposits. Most of these soils have been so disturbed or buried by earth-moving or fill operations that the natural soil characteristics have been destroyed and precise classification cannot be made. In general, these soils are somewhat poorly drained, and the major limitations are seasonal wetness and moderately slow permeability (U.S. Department of Agriculture, 1976).

Urban Land Loamy Materials are generally underlain by glacial till or limestone bedrock. The glacial till below these materials tends to be loamy but compact, and surface runoff is mostly medium to rapid. Usually the land in these areas has been developed to the point where most of the acreage is under roof or pavement. New construction on these soils may be considered a potential source of silt pollution in nearby drainages. No prime or unique farmlands are known to exist at Gentile AFS (U.S. Department of Agriculture, 1976).

3.4.2 Water Resources

Water resources include those portions of the natural environment related to surface water and groundwater. These water considerations include drainage/runoff, permanent surface water features, drinking water quality, water quality effects associated with effluent and nonpoint source (storm water runoff) requirements, floodplains, water supply capacity (surface and

Table 3.4-1. Soil Series in Gentile AFS Region of Influence

Property	Crosby-Urban Land Complex	Urban Land Loamy Materials
Texture	Silt loam	Loam
Slope	Nearly level	Nearly level
Drainage	Poor	Variable
Physiography	Upland urban	Upland urban
Permeability	Moderately slow	Variable
Surface runoff	N/A	Moderate to rapid
Erosion potential (water)	N/A	N/A
Erosion potential (wind)	N/A	N/A
Shrink-swell potential	Low	Variable
Corrosivity	Moderate to low (steel)	Variable (steel)
	Moderate to low (Concrete)	Variable (concrete)
Frost action	High	Variable

N/A = Data not available

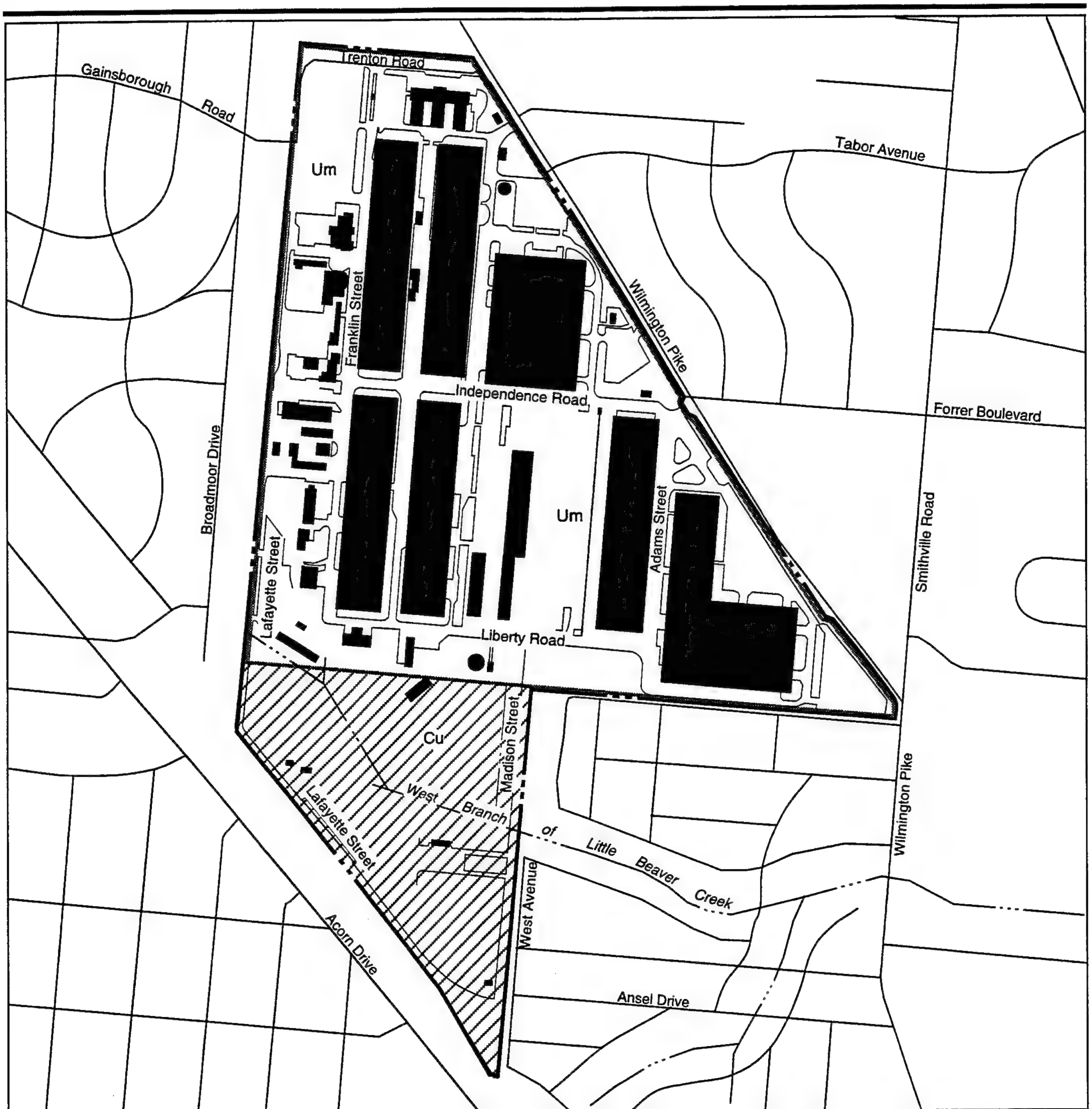
Source: U.S. Department of Agriculture, 1976

groundwater), and aquifer characteristics. Wetlands are considered as part of the biological resource analysis (Section 3.4.4.4, Sensitive Habitats), and existing water contamination associated with station or other nearby operations is considered as part of the hazardous materials/waste management analysis (Section 3.3, Hazardous Materials and Hazardous Waste Management).

The ROI for surface water is the drainage system/watershed in which the station is located; the ROI for groundwater is the local aquifers that are directly or indirectly associated with the station.

3.4.2.1 Surface Water. Figure 3.4-2 shows the primary surface and groundwater hydrology characteristics at Gentile AFS. Gentile AFS lies within the Little Miami River drainage basin. The primary surface water feature of the station is the West Branch of Little Beaver Creek, which is part of the Little Miami River drainage basin.

The Miami Conservancy District Flood Hazard Atlas does not show any designated floodplains associated with the West Branch of Little Beaver Creek. However, the Wiles Creek neighborhood map shows a 100-year floodplain associated with the West Branch of Little Beaver Creek as it exits the station (Kettering Planning Division, 1982). Extrapolating this floodplain onto the station would indicate that 15-20 acres adjacent to the creek may be considered within the 100-year floodplain.



EXPLANATION

Soils Distribution

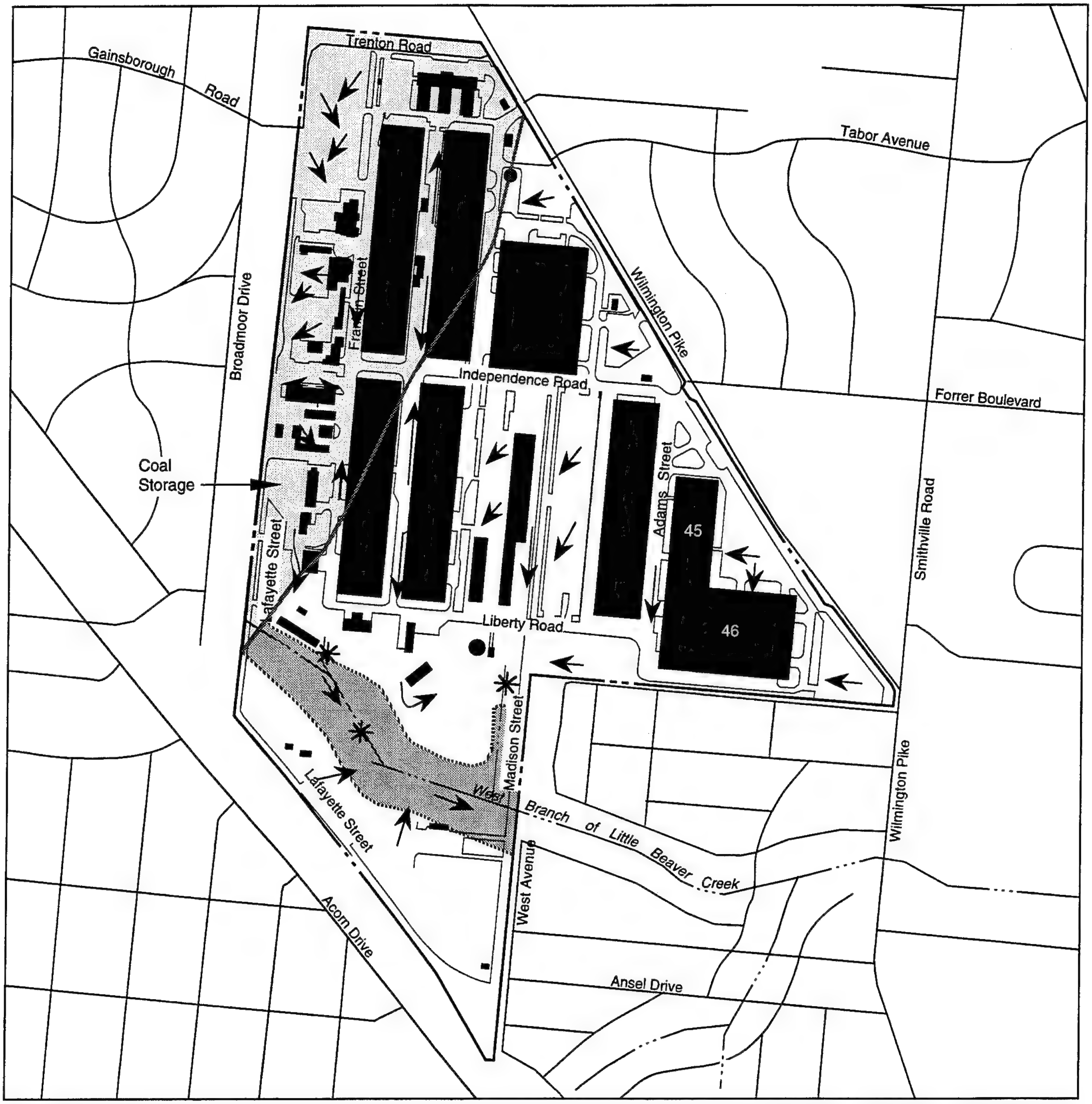
- Station Boundary
- Drainage
- Soil Boundary

- Cu — Crosby Urban
- Um — Urban Land

0 175 350 700 Feet

Source: U. S. Department of Agriculture, 1976

Figure 3.4-1



EXPLANATION

- Station Boundary
- Drainage
- Estimated 100-year floodplain
- Storm Drain Outlets
- Surface Flow Direction (Generalized)
- City of Oakwood Wellhead Protect Program 5-year Resource Protection Area Boundary

0 175 350 700 Feet

Surface Hydrology

Figure 3.4-2

3.4.2.2 Surface Drainage. All storm water runoff at the station either directly enters into the West Branch of Little Beaver Creek or is directed into the creek by a series of storm drains. Storm drains are located between all the major building areas and generally drain towards the south. Drainage from the south side of the station heads north across the grassy park areas. Surface drainage features are shown on Figure 3.4-2.

The water discharge programs at Gentile AFS are being managed in accordance with guidelines set forth in the most recent National Pollutant Discharge Elimination System (NPDES) permit, issued in 1982. Although this permit has expired, Ohio state agencies regard this permit as current provided monthly sampling of the regulated outfalls continues. This permit was originally issued to regulate four outfalls on station: three air conditioner cooling towers and one for runoff from the coal piles on the station.

Since the original issuance of this permit, two of the three air conditioners have been replaced and no longer discharge water into the storm drain system. This leaves only two outfalls into the West Branch of Little Beaver Creek, which are currently regulated. The discharge sources include cooling tower water from Buildings 45 and 46, and coal pile storm water runoff.

3.4.2.3 Groundwater. The groundwater hydrology of the area is generally divided into two aquifer systems: the unconsolidated glacial and alluvial deposit aquifers, and the bedrock unit aquifers (Silurian- and Ordovician-age strata). Most of the Dayton area municipal water supplies are obtained from aquifers in the glacial outwash deposits. These aquifers are generally divided into an upper and lower aquifer separated by a relatively impermeable glacial till layer. These aquifers yield as much as 1,000 gallons per minute (gpm) and are generally recharged by direct precipitation and stream water infiltration. At Rohrers Island in east Dayton, recharge of this aquifer is assisted by artificial means through a series of ponds on the island. Total thickness of these aquifers in the Dayton area averages approximately 200 feet (Norris and Spieker, 1966).

Gentile AFS receives the majority of its water supply from the city of Dayton municipal water system. Additional water supplies for Building 110, located in the southern portion of the station, are obtained from Montgomery County water systems. Both these municipalities obtain their water supplies from the sand and gravel glacial outwash aquifers of the Mad and Miami River valleys. These aquifers can yield as much as 1,000 gpm (Engineering Science, 1982).

The station is underlain by glacial till deposits, which generally have low-yielding, intermittent aquifers. Groundwater in these aquifers generally occurs in isolated coarse sand and gravel zones separated by low permeable, silty, sandy, clayey zones, which limit the recharge of lower aquifers. These aquifers yield from 3 to 10 gpm, and water supply may be variable (Norris

and Spieker, 1966; Schmidt, 1986). These aquifers are generally only tapped for domestic quantities; however, the city of Oakwood, north of the station, obtains its water supplies from the more permeable sand and gravel zones within this aquifer.

There are eight groundwater monitoring wells located on the station, just south of the West Branch of Little Beaver Creek. Groundwater levels in these wells vary between 5 and 15 feet below ground surface. The groundwater gradient determined from these wells is toward the northeast (toward the West Branch of Little Beaver Creek). However, there is an anomaly in the groundwater elevations for these wells. This may be due either to a perched water table in the vicinity or to an error made in the determination of the water levels (U.S. Army Environmental Hygiene Agency, 1988). Limited groundwater gradient information is available for the northern portion of the station; however, it is believed that the gradient is toward the city of Oakwood's wellfields, northwest of the installation (Lockwood, Jones, and Beals, Inc., 1993).

An aquifer characteristic study was conducted for the city of Oakwood to determine which areas would fall under their wellhead protection program (Lockwood, Jones, and Beals, Inc., 1993). Wellhead protection programs are required under the provisions of the federal Clean Water Act (CWA). The report delineated 1- and 5-year groundwater migration areas that might affect the water quality for the city of Oakwood's wellheads. The northwest portion of the station is included within the 5-year boundary determined by this report (see Figure 3.4-2). The city of Oakwood's closest wellhead field (Firewood Well Field) is approximately 3,500 feet northwest of the station. The boundary lines were determined by groundwater migration rates and local groundwater gradient divides.

The city of Oakwood is currently developing guidelines for the wellhead protection program. However, until the guidelines are finalized, the city is using the 1-year groundwater migration boundary as its wellhead protected area (Klopsch, 1994). Should the city of Oakwood's finalized wellhead protection program adopt the 5-year boundary as its protected area, users of hazardous materials may be required to report amounts and types of chemicals used at industrial facilities within the wellhead protection area.

Limited information on the bedrock aquifers is available; however, the Niagara Group Limestones are reported as having yields of groundwater, up to 75 gpm (Schmidt, 1986). These aquifers are tapped by domestic use wells northwest of Dayton. The Ordovician-age limestone and shale units are generally impermeable; below these units, briny waters are encountered.

3.4.2.4 Water Quality. Gentile AFS obtains most of its water supply from the city of Dayton and limited amounts from Montgomery County. The groundwater in all the aquifers around Dayton is very similar in chemical composition. In general, water obtained from these aquifers is hard with

good clarity and has variable, but high amounts of iron and manganese. Since all of these aquifers are recharged by direct precipitation and stream flow infiltration, surface contaminates from industries located along the major rivers may affect the quality of water throughout the region (Norris and Spieker, 1966; Schmidt, 1986). However, in 1988, the city of Dayton and surrounding communities enacted laws to protect the quality of their potable groundwater. These laws have greatly reduced the risk of the degradation of groundwater quality from industries located within groundwater recharge areas.

Twenty water fountains at Gentile AFS tested negative for lead in 1988. This sampling was initiated as a result of an employee request. Additionally, surface water quality of the West Branch of Little Beaver Creek is affected by station activities. The quality of the creek water is regulated by the NPDES permit and is sampled monthly as part of their permit requirements. In general, water quality of the creek varies depending on storm water runoff and other effluent discharges in the creek. However, semivolatile target list compounds (TLCs) and tentatively identified compounds (TICs) have been identified in the station surface waters (West Branch of Little Beaver Creek) (U.S. Army Environmental Hygiene Agency, 1991).

Groundwater quality in the vicinity of Gentile AFS is generally good, hard, and very clear, but with elevated levels of iron and magnesium. Minor amounts of contamination in the southern portion of the station have been reported (U.S. Army Environmental Hygiene Agency, 1991). Amounts and types of contaminants are further discussed in Section 3.3, Hazardous Materials and Hazardous Waste Management, but generally consist of low levels of trichloroethylene, benzene, and vinyl chloride (U.S. Army Environmental Hygiene Agency, 1991).

Groundwater from the Niagara Group Formations is generally good and used as a potable water supply north of Dayton (Norris and Spieker, 1966). Limited groundwater information is available from the Ordovician-age rock, but the groundwater quality is generally considered poor when available. Water below the impermeable Ordovician-age strata is considered briny.

3.4.3 Air Quality

Air quality in a given location is described by the concentration of various pollutants in the atmosphere, generally expressed in units of ppm or mg/m^3. Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The significance of a pollutant concentration is determined by comparing it to federal and state ambient air quality standards. These standards represent the maximum allowable atmospheric concentrations that may occur and still protect public health and welfare, with a reasonable margin of safety. The federal standards are established by the U.S. EPA and termed the National Ambient Air Quality Standards

(NAAQS). The state of Ohio has adopted the NAAQS as their representative air quality standards. The NAAQS are presented in Table 3.4-2.

Table 3.4-2. National and Ohio Ambient Air Quality Standards

	Averaging	----National/Ohio Standards[a]----	
Pollutant	Time	Primary[b,c]	Secondary[b,d]
Ozone	1-Hour	0.12 ppm (235 $\mu g/m^3$)	Same as Primary Standard
Nitrogen Dioxide	Annual	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard
Carbon Monoxide	8-Hour	9 ppm (10 mg/m^3)	-
	1-Hour	35 ppm (40 mg/m^3)	-
Sulfur Dioxide	Annual	0.03 ppm (80 $\mu g/m^3$)	-
	24-Hour	0.14 ppm (365 $\mu g/m^3$)	-
	3-Hour	-	1,300 $\mu g/m^3$ (0.5 ppm)
PM_{10}	Annual	50 $\mu g/m^3$[e]	Same as Primary Standard
	24-Hour	150 $\mu g/m^3$	Same as Primary Standard
Lead	Quarterly	1.5 $\mu g/m^3$	Same as Primary Standard

Notes: (a) Standards, other than those for ozone and those based on annual averages or arithmetic means, are not to be exceeded more than once per year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

(b) Concentrations are expressed first in the units in which they were promulgated. Equivalent units given in parenthesis are based upon a reference temperature of 25 degrees Centigrade and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to parts per million by volume, or micromoles of pollutant per mole of gas.

(c) Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect public health.

(d) Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

(e) Calculated as arithmetic mean.

$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
PM_{10} = particulate matter equal to or less than 10 microns in diameter
ppm = parts per million

Source: Clean Air Act, Title 42 U.S. Code, Section 7401-7671

The main pollutants of concern in this EIS are ozone, carbon monoxide (CO), nitrogen oxides (NO_x), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulate matter equal to or less than 10 microns in diameter (PM_{10}). NO_x include all oxide species of nitrogen. Although not specifically regulated under NAAQS, NO_x are of concern because of their potential contribution to ozone formation. Only that portion of total NO_x, which is measurable as NO_2, is subject to the NAAQS. The previous NAAQS for particulate matter were based upon total suspended particulate (TSP) levels; these standards were replaced in 1987 by ambient standards based only on the PM_{10} fraction of TSP.

Airborne emissions of lead are not addressed in this EIS because there are no known lead emission sources included in the reuse alternatives. Lead concentrations are monitored in a number of high population density areas

throughout the United States, and all of these areas meet the quarterly primary and secondary standard of 1.5 mg/m^3.

The existing air quality of the affected environment is defined by air quality data and emissions information. Air quality data are obtained by examining air quality monitoring records collected by the Ohio EPA-Division of Air Quality Control from monitoring stations in the surrounding area.

Information on pollutant concentrations measured for short-term (24 hours or less) and long-term (annual) averaging periods is extracted from the monitoring station data in order to characterize the existing air quality background of the area. Emission inventory information for the affected environment was obtained from the Ohio EPA and from Gentile AFS in order to describe the baseline conditions of pollutant emissions in the area. Inventory data are separated by pollutant and reported in tons per year.

Identifying the ROI for an air quality assessment requires knowledge of the pollutant types, source emission rates and release parameters, the proximity relationships of project emission sources to other emission sources, and local and regional meteorological conditions. For inert pollutants (all pollutants other than ozone, its precursors, and NO_2), the ROI is generally limited to an area extending a few miles downwind from the source.

Ozone is a secondary pollutant formed in the atmosphere by photochemical reactions of previously emitted pollutants, or precursors. Ozone precursors are mainly volatile organic compounds (VOCs) in the form of hydrocarbons and NO_x. By U.S. EPA definition, VOCs are compounds containing carbon, excluding CO, carbon dioxide (CO_2), carbonic acid, metallic carbides, metallic carbonates, and ammonium carbonate. VOCs do not include methane or other nonreactive methane and ethane derivatives. NO_x is the designation given to the group of all oxygenated nitrogen species, including nitrous oxide (N_2O), nitric oxide (NO), NO_2, nitrogen trioxide (N_2O_3), and nitrogen tetroxide (N_2O_4). Although all of these compounds can exist in air, only N_2O, NO, and NO_2 are present in any appreciable quantities.

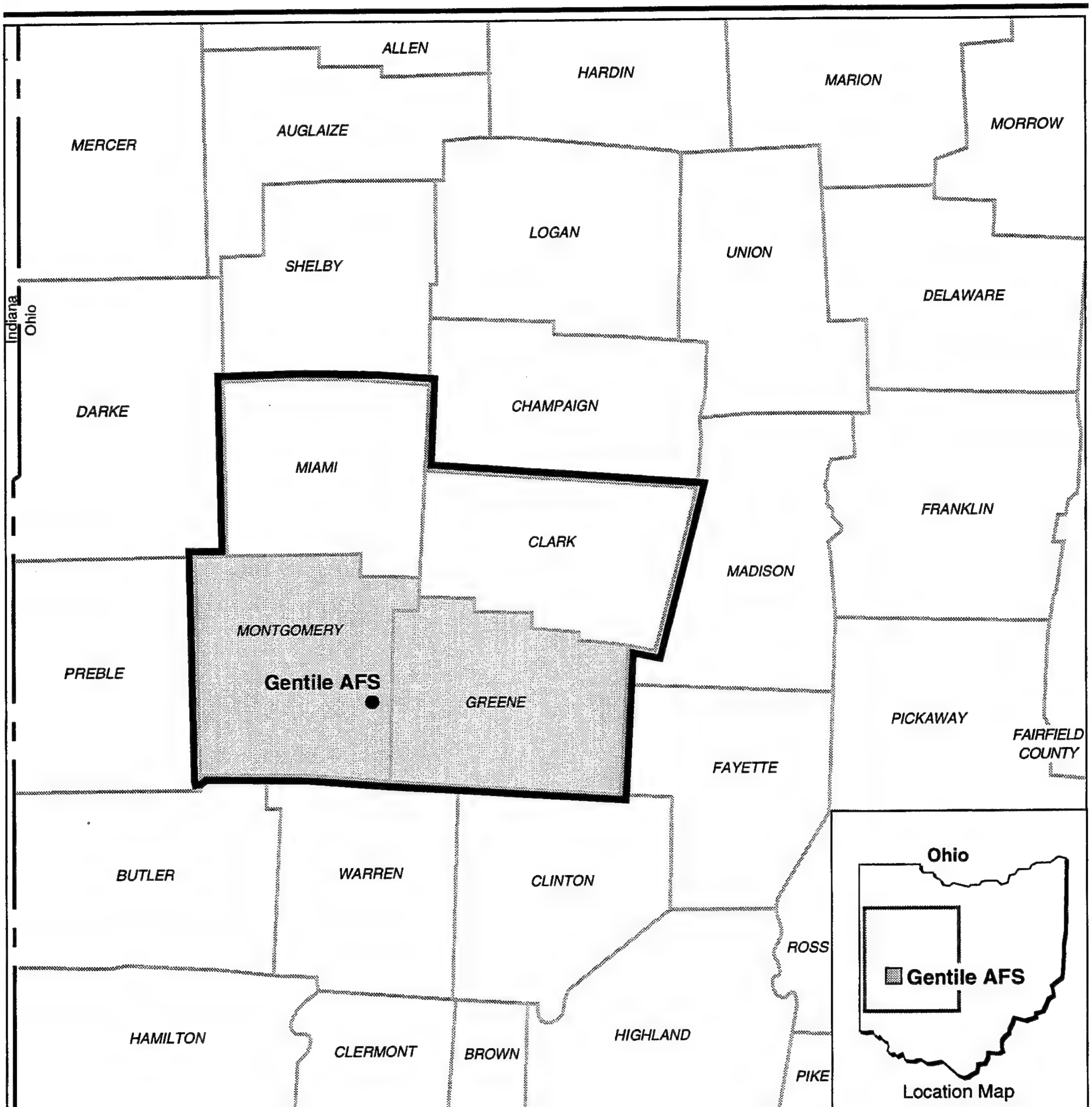
The ROI for ozone may extend much farther downwind than the ROI for inert pollutants. In the presence of solar radiation, the maximum effect of precursor emissions on ozone levels usually occurs several hours after they are emitted and, therefore, many miles from the source. Ozone and its precursors transported from other regions can also combine with local emissions to produce high local ozone concentrations. Ozone concentrations are generally the highest during the summer and coincide with periods of maximum solar radiation. Maximum ozone concentrations tend to be regionally distributed because precursor emissions are homogeneously dispersed in the atmosphere. Due to the complex interaction of ozone, the Dayton/Springfield Airshed is considered the ROI for ozone. This control region includes Clark, Greene, Miami, and Montgomery counties.

Like ozone, NO_2 emissions are also regionally distributed. NO_2 is formed primarily by the conversion of NO to NO_2 in the presence of oxygen (either during combustion or in the atmosphere). NO is produced by fuel combustion in both stationary and mobile sources such as automobiles and aircraft. The amount of NO produced is dependent upon the combustion temperature and the rate of exhaust gas cooling. Higher temperatures and rapid cooling rates produce greater quantities of NO. Where higher NO concentrations and temperatures exist, some of the NO is immediately oxidized to NO_2. The amount of immediate NO_2 combustion generation generally varies from 0.5 to 10 percent of the NO present (U.S. Environmental Protection Agency, 1971). The remaining unconverted NO is oxidized to NO_2 in the atmosphere primarily through photochemical secondary reactions initiated by the presence of sunlight. These photochemical reactions may take place hours after the initial NO release and many miles from the original source, dependent upon the prevailing meteorological conditions.

The ROI for emissions of ozone precursors and NO_2 from the reuse-related construction and operational activities is the existing airshed surrounding Gentile AFS, known as the Dayton/Springfield Airshed. However, due to the large size of the control region, the ROI for ozone precursors and NO_2 is considered for the purpose of this air quality analysis to be Montgomery and Greene counties. The counties' relationship to Gentile AFS and the Dayton/Springfield Airshed is shown in Figure 3.4-3. Reuse-related emissions of VOC, NO_x, and NO_2 are compared to emissions generated within Montgomery and Greene counties. The ROI for emissions of the inert pollutants (CO, SO_2, and PM_{10}) is limited to the more immediate area of Gentile AFS.

The federal Clean Air Act (CAA), most recently amended in November 1990, dictates that project emission sources must comply with the air quality standards and regulations that have been established by federal, state, and county regulatory agencies. These standards and regulations focus on (1) the maximum allowable ambient pollutant concentrations resulting from project emissions, both separately and combined with other surrounding sources, and (2) the maximum allowable emissions from the project.

Prior to the 1990 CAA Amendments, federal regulation of hazardous air emissions was very limited. Section 112, as amended in 1990, requires U.S. EPA to regulate a greatly expanded list of hazardous air pollutants (HAPs). Additionally, U.S. EPA must publish a list of all categories and subcategories of emission sources of HAPs. After identifying and listing sources of HAPs, U.S. EPA must promulgate emission standards that are equivalent to maximum achievable control technology (MACT). By 2000, it is expected that final U.S. EPA regulations will control HAP emissions and require adoption of costly control measures for most medium- and large-sized sources of HAPs.



EXPLANATION

County Boundary

Airshed Boundary

Region of Influence

Gentile Air Force Station

0 3.75 7.5 15 Miles

Note: Airshed boundary is ROI for ozone. ROI is for ozone precursors and NO_2. Gentile AFS is ROI for inert pollutants (CO, SO_2, and PM_{10}).

Dayton/Springfield Airshed

Figure 3.4-3

3.4.3.1 Regional Air Quality. Gentile AFS is near the center of the nearly flat Miami River Valley. The valley is surrounded by rolling hills 50-200 feet above the valley floor. This lack of significant elevation allows air masses to sweep into the region unimpeded. Moist air masses flowing from the Gulf of Mexico, or cold polar continental air masses from the central of northwest Canada may, at any given time, be the dominating influence affecting weather in the area.

According to U.S. EPA guidelines, an area with air quality better than the NAAQS is designated as being in attainment; areas with worse air quality are classified as non-attainment areas. An area is considered to be in attainment of an NAAQS (except for ozone and those based upon annual average or annual arithmetic means) if the standards for the pollutant are not exceeded more than once per year. An area is considered to be in attainment for ozone if maximum hourly concentration exceeds the standard on no more than 1 day per calendar year. Pollutants in an area may be designated as unclassified when there is a lack of data for the U.S. EPA to form a basis of attainment status. Currently, the Dayton/Springfield Airshed is designated by the U.S. EPA as being in attainment of the NAAQS for all criteria pollutants (Gross, 1995). A formal application for redesignation of the four-county ozone non-attainment area (including Montgomery, Greene, Clark, and Miami counties) to attainment was submitted to the U.S. EPA by the Miami Valley Regional Planning Commission in October 1993 and approved on May 5, 1995 (60 Federal Register 22289). The redesignation request included three primary control measures to ensure that additional emissions resulting from future industrial and population growth, and increases in vehicle miles traveled will be offset. These additional control measures are: (1) use of Stage II vapor recovery (i.e., the control of VOC emissions at gasoline refueling stations through the installation of vapor recovery equipment), (2) use of clean gasoline (i.e., either a less volatile fuel or a reformulated gasoline that provides additional emission reductions), and (3) implementation of an enhanced vehicle inspection and maintenance program.

New or modified major stationary sources in the area of Gentile AFS would be subject to Prevention of Significant Deterioration (PSD) review to ensure that these sources are constructed without significant adverse deterioration of the clean air in the area. Emissions from any new or modified source must be controlled using Best Available Control Technology (BACT). The air quality impacts in combination with other PSD sources in the area must not exceed the maximum allowable incremental increases identified in Table 3.4-3. Certain national parks and wilderness areas are designated as Class I areas, where any appreciable deterioration in air quality is considered significant. Class II areas are those where moderate, well-controlled industrial growth could be permitted. Class III areas allow for greater industrial development. The area surrounding Gentile AFS is designated by the U.S. EPA as Class II. There are no Class I areas within 70 miles of Gentile AFS.

Table 3.4-3. Maximum Allowable Pollutant Concentration Increases under PSD Regulations

Pollutant	Averaging Time	Maximum Allowable Increment ($\mu g/m^3$) Class I	Class II	Class III
Nitrogen dioxide	Annual	2.5	25	50
Sulfur dioxide	Annual	2	20	40
	24-hour	5	91	182
	3-hour	25	512	700
PM_{10}	Annual	4	17	34
	24-hour	8	30	60

Note: Class I areas are regions in which the air quality is intended to be kept pristine, such as national parks and wilderness areas. All other lands are initially designated Class II. Individual states have the authority to redesignate Class II lands as Class III to allow maximum industrial use.

$\mu g/m^3$ = micrograms per cubic meter
PM_{10} = particulate matter equal to or less than 10 microns in diameter
PSD = Prevention of Significant Deterioration

Source: 40 Code of Federal Regulations Parts 51 and 52, as revised June 3, 1993.

In addition to the requirements for PSD review, Title V of the CAA now requires a permit for any of the following sources:

- A source that has the potential to emit 10 tons or more of a single HAP in a 1-year period
- A source that has the potential to emit 25 tons or more of HAPs in a 1-year period
- A source that has the potential to emit 100 tons or more of any criteria pollutant in a 1-year period
- A new or modified major source that is located in a nonattainment area.

The permitting authority must notify an adjoining state if one of the above sources is within 50 miles of that state or could affect the air quality of that state. The affected states then have the opportunity to make recommendations concerning the terms and conditions of the permit that would be issued to the source.

Preclosure Reference. There are numerous monitoring stations around Gentile AFS, but none located within its boundaries. Ozone is monitored 4.5 miles to the north-northwest of the station, while NO_2 is monitored in Norwood, 40 miles south-southwest of Gentile AFS. The CO, SO_2, and PM_{10} monitoring sites are clustered together 2.5 miles north-northwest of the station. The maximum concentrations of the pollutants measured at these stations are presented in Table 3.4-4. None of the maximum concentrations exceeded the NAAQS. The monitoring data shown in

Table 3.4-4. Existing Air Quality in Area around Gentile AFS

Pollutant/Station	Averaging Time	NAAQS Standards	Maximum Concentration by Year[a] $\mu g/m^3$ (ppm) 1990	1991	1992
Ozone					
Site No. 40	1-Hour	235 (0.12)	233 (0.119)	210 (0.107)	194 (0.099)
Nitrogen Dioxide					
Norwood	Annual	100 (0.053)	53 (0.028)	50 (0.026)	50 (0.026)
Carbon Monoxide					
Site No. 4	8-Hour	10mg/m^3 (9)	4,520 (3.9)	4,760 (4.1)	8,120 (7.0)
	1-Hour	40 mg/m^3 (35)	14,150 (12.2)	10,560 (9.1)	13,460 (11.6)
Sulfur dioxide					
Site No. 44	Annual	80 (0.03)	15.9 (0.006)	13.2 (0.005)	13.2 (0.005)
	24-Hour	365 (0.14)	58.3 (0.022)	63.6 (0.024)	92.8 (0.035)
	3-Hour	1,300 (0.5)	114.0 (0.043)	106.0 (0.040)	177.5 (0.067)
PM_{10} [b]					
Site No. 1	Annual (Arithmetic)	50	29	30	28
	24-Hour	150	89	62	62

Notes: (a) The Norwood site is located in the City of Norwood 40 miles to the south-southwest of the station. Site No. 40 is located on Timber Lane in Dayton, Site No. 4 is located on East Fourth Street in Dayton, Site No. 44 is located on West Third Street in Dayton, and Site No. 1 is located on East Monument in Dayton.

(b) Maximum concentrations for PM_{10} are provided in units of $\mu g/m^3$ only.

$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
PM_{10} = particulate matter equal to or less than 10 microns in diameter
ppm = parts per million

Table 3.4-4 are assumed to represent preclosure air quality conditions around Gentile AFS.

Closure Baseline. It can reasonably be assumed that pollutant concentrations in the region surrounding Gentile AFS at closure would be less than concentrations experienced under preclosure conditions due to the implementation of regional air emission control measures and the reduction of sources. Pollutant concentrations at Gentile AFS would be lower than the preclosure levels due to the reduction or elimination of numerous emission sources associated with normal station activities (e.g., all current solvent and degreaser usage on station would be reduced or eliminated). The closure would also reduce the number of motor vehicles operating on-station and in the surrounding area. Emissions associated with military vehicles assigned to the station, military and civilian employee private vehicles, military retirees visiting Gentile AFS facilities, and truck traffic associated with station

operations would all be eliminated, with the exception of those vehicles associated with the OL.

3.4.3.2 Air Pollutant Emission Sources

Preclosure Reference. Gentile AFS and Montgomery and Greene counties emissions inventories representative of preclosure conditions are presented in Table 3.4-5. The station inventory data are representative of 1992. The most recent emission inventories representative of preclosure conditions in Montgomery and Greene counties were completed in 1990. The station emissions presented in Table 3.4-5 are based on inventory calculations for direct and indirect military and civilian sources associated with the station. The permitted sources (those that are regulated) associated with the station include: (1) heating and power production, and (2) fuel evaporation; while the non-permitted (non-regulated) sources include: (1) surface coating, (2) solvent degreasing, and (3) motor vehicles (both direct and indirect sources). Direct mobile source emissions are from military and civilian vehicles operating on station, and military vehicles operating off station. Indirect mobile source emissions are from employee vehicles commuting to and from the station. A list of permitted sources at Gentile AFS is presented in Appendix F.

The only area and mobile source emissions reported for Montgomery and Greene counties are for the pollutants NO_x, CO, and VOC. No area or mobile source data are available for SO_2 or PM_{10}. The point source emissions are from permitted stationary sources within the counties. Emissions from Gentile AFS are included as part of the total Montgomery County emissions.

Closure Baseline. The station-related emissions at closure would be negligible. The reduction in station-related emissions from preclosure conditions reflects the loss of both direct and indirect sources due to reduced on-station activities, reduced heating and power requirements, and the reduction in direct and indirect population associated with Gentile AFS at the time of closure. The total number of personnel associated with OL activities would be only five people plus some part-time contractors. Heating and power requirements to maintain the buildings in a caretaker status would be minimal. Prior to property disposal, the existing air permits would be canceled or made available for transfer to potential new users.

3.4.4 Biological Resources

Biological resources include the native and introduced plants and animals in the project area. For discussion purposes, these are divided into vegetation, wildlife (including aquatic biota), threatened and endangered species, and sensitive habitats.

Human activities in the immediate vicinity of Gentile AFS have altered the natural environment primarily through urbanization. The native environment is fragmented and no longer present in most areas. Facility development on

Table 3.4-5. Preclosure Emissions Inventory (tons per year)

Source	NO_x	CO	SO_2	PM_{10}	VOC
Gentile AFS[a][b]					
Heating and Power Production	21.69	25.11	55.81	4.95	2.97
Motor Vehicles (direct)	16.95	46.25	ND	ND	6.39
Motor Vehicles (indirect)	28.86	217.06	ND	ND	25.93
Surface Coating	NA	NA	NA	NA	1.41
Fuel Evaporation Losses	NA	NA	NA	NA	0.10
Solvent Degreasing	NA	NA	NA	NA	0.01
Station Total	67.50	288.42	55.81	4.95	36.81
Montgomery County[c][d]					
Area Sources	4,496	37,043	ND	ND	11,272
Mobile Sources	12,852	139,423	ND	ND	15,417
Point Sources	5,369	826	7,403	759	3,371
Total	22,717	177,292	7,403	759	30,060
Greene County[c]					
Area Sources	1,408	8,871	ND	ND	2,916
Mobile Sources	3,757	36,390	ND	ND	4,053
Point Sources	1,197	689	1,382	194	245
Total	6,362	45,950	1,382	194	7,214

Notes:
(a) Inventory data are representative of year 1992.
(b) All Gentile AFS emissions, with the exception of commuting employee motor vehicle emissions, are from direct sources. Commuting emissions are considered as indirect source emissions.
(c) Inventory data are representative of year 1990.
(d) Gentile AFS emissions are a subset of Montgomery County emissions.

CO = carbon monoxide
NA = not applicable
ND = no data available
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_2 = sodium dioxide
VOC = volatile organic compound

Sources: Ohio Environmental Protection Agency, 1993 and 1994.

the station includes office and industrial buildings, housing, and associated landscaping, roads, sidewalks, and recreation areas.

The ROI for discussion of biological resources and potential impacts on these resources is the station property. This includes the area within which potential impacts could occur, and provides a basis for evaluating the level of impact.

The following descriptions are based on information from the USFWS, the Ohio Division of Natural Resources (ODNR), an inspection of the station in July 1995, and a literature search. A list of species that could potentially occur at Gentile AFS is included in Appendix G, Biological Resources.

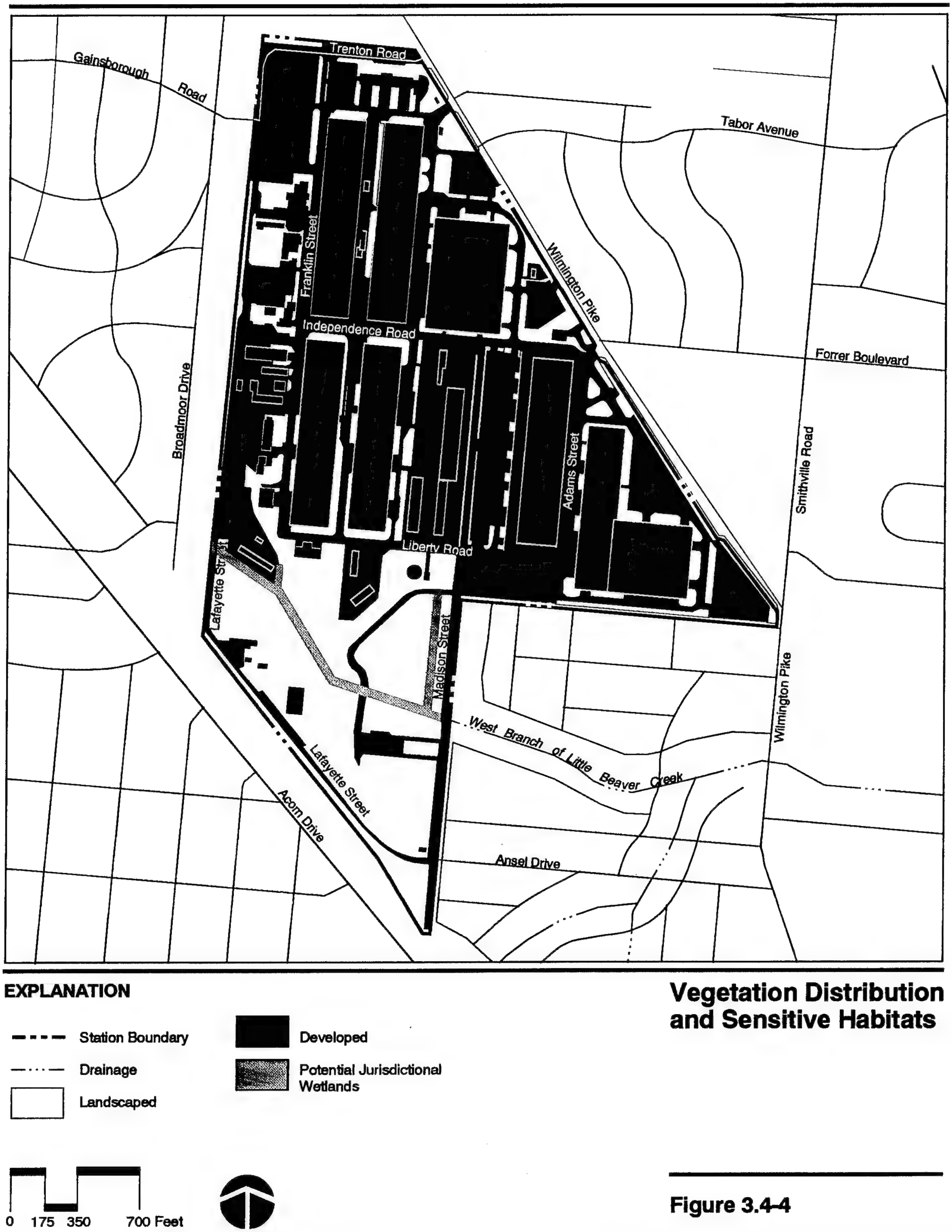
3.4.4.1 Vegetation. This section discusses the plant resources of Gentile AFS. Protected plant species are discussed in Section 3.4.4.3, Threatened and Endangered Species. A discussion of wetland vegetation is provided in Section 3.4.4.4, Sensitive Habitats.

Prior to development, the ROI consisted of an Elm-Ash Swamp Forest Association typified by white elm, black ash, white ash, silver maple, and red maple. Better drained or transitional areas included bur oak, shellbark hickory, red oak, and basswood with swamp white oak, pin oak, white oak, black walnut, and tuliptree. Historic development included agriculture followed by urbanization. Presently, none of the original forest exists in the ROI.

Vegetation on Gentile AFS is indicative of urban landscaping and consists of ornamental trees, shrubs, and planted grasses (Figure 3.4-4). The alteration of the natural environment has resulted in low species diversity and low quality vegetation. Landscape species require high levels of maintenance such as trimming, mowing, fertilization, and pesticide application.

Landscaped vegetation consisting mostly of domesticated grasses (including bluegrass, ryegrass, and fescues) is the dominant vegetation type at Gentile AFS. The largest landscaped area occurs in the southern portion of the station. Planted trees that are found scattered throughout Gentile AFS include jack pine, Norway and white spruces, Ohio buckeye, red mulberry, white ash, Norway maple, and white pine (U.S. Air Force, 1979).

Vegetation maintenance includes fertilization, application of herbicides, and trimming and mowing. Areas that are not maintained on Gentile AFS occur along the banks of the West Branch of Little Beaver Creek and associated drainages in the southern portion of the station. Herbaceous growth along the drainages includes goldenrod, dock, thistle, milkweed, clover, and grasses. Shrubs, including *Viburnum* and young black willows, usually are associated with trees including American basswood, black birch, black maple, downy hawthorn, and Ohio buckeye.



Vegetation Distribution and Sensitive Habitats

Figure 3.4-4

Landscaped areas account for 51 acres, or 31 percent of the station, of which 32 acres are on the southern, largely undeveloped portion of the station, and 19 acres are scattered over the remainder. Surface water and streamside vegetation areas include the West Branch of Little Beaver Creek and connecting drainages, which include 1 percent of the station acreage (less than 2 acres). The developed areas (pavement and buildings) account for 111 acres, or approximately 68 percent of the station.

3.4.4.2 Wildlife. Wildlife at Gentile AFS are associated with urban areas and stream courses. This includes small mammals, birds, reptiles, amphibians, and fish. Protected wildlife species are discussed in Section 3.4.4.3, Threatened and Endangered Species.

Urbanization has eliminated most of the natural habitat from the area. However, many small mammals are found in open fields and lawns.

Mammals associated with urban areas in the vicinity of the station include least shrew, eastern mole, house mouse, Norway rat, fox squirrel, groundhog, eastern cottontail, and raccoon (U.S. Air Force, 1979). Birds are more mobile, and occur in a greater number and diversity at Gentile AFS than other wildlife. Birds that are common in urban environments and may occur on the station include the American robin, European starling, rock dove, and mourning dove. Riparian drainages may contain northern bobwhite, brown thrasher, yellow-breasted chat, American goldfinch, and indigo bunting.

Reptiles potentially occurring on the station include brown snake, garter snake, milk snake, several species of semiaquatic snakes, and eastern box turtle.

The West Branch of Little Beaver Creek and its associated drainages could support amphibians such as spring peepers, leopard frog, American toad, Fowler's toad, and the western chorus frog. Fish species in the shallow station drainages are likely to be mostly minnows. The station drainages flow into an adjacent river that contains tolerant species such as white crappie, red horse sucker, carp, bullhead, catfish, and small-mouth bass.

3.4.4.3 Threatened and Endangered Species. A letter was sent to the USFWS requesting information on sensitive species at Gentile AFS as part of informal consultation under Section 7 of the Endangered Species Act. In response, the USFWS provided a list of species that are of concern in the general area of Gentile AFS. The USFWS-listed threatened or endangered species potentially occurring at Gentile AFS include the Indiana bat, peregrine falcon, clubshell mussel, running buffalo clover, and eastern prairie fringed orchid. In addition, the USFWS provided information on several species that are candidates for listing as threatened or endangered, all of which are classified as Category 2. Category 2 candidate species for federal

listing may warrant listing; however, substantial biological information to support a proposed rule is lacking.

The federal-endangered Indiana bat's range is widely dispersed in summer, but concentrated in winter during hibernation in only a few caves in Indiana, Missouri, and Kentucky. During the summer, Indiana bats roost in the exfoliating bark of trees or in tree cavities. Pregnant females gather in maternity colonies and give birth in the summer. Indiana bats mostly forage over forested areas, more among the trees than over water. Rarely do they live in buildings or under bridges (Schwartz and Schwartz, 1981). Because of these habitat preferences, it is expected that the Indiana bat could occur at Gentile AFS only as a transient during foraging and migration.

The federal-endangered peregrine falcon is widely distributed. These birds of prey breed in open habitats from tundra, savanna, seacoasts, high mountains, and occasionally in open forests and tall buildings. Peregrine falcons nest on cliff sites, which are used for many years, or rarely in old tree nests or cavities (Ehrlich et al., 1988). Like the Indiana bat, the peregrine falcon could occur at Gentile AFS as a transient during foraging and migration.

The federal-endangered clubshell mussel inhabits medium to large rivers in mixed sand and gravel, and could occur in the Great Miami River. Although the West Branch of Little Beaver Creek eventually feeds into the Little Miami River, it is isolated by urban development. Because of this, the clubshell mussel is not expected to be found on Gentile AFS.

The federal-endangered running buffalo clover occurs in prairie and woodland areas. Although there have been historic accounts of its occurrence in western Ohio, the species was last recorded in 1906 in Belmont County. It is thought to be extirpated, and is not expected to occur on Gentile AFS (Ohio Biological Survey, 1982).

The federal-threatened eastern prairie fringed orchid inhabits moist prairies, marshlands, and bogs. There have been records of eastern prairie fringe orchid occurrences in Montgomery County in the 1980s (Ohio Biological Survey, 1982). Because of the extensive alteration of the natural habitat on Gentile AFS, prairies, marshlands, and bogs do not exist on the station. However, the eastern prairie fringed orchid could potentially be found on Gentile AFS.

The eastern massasauga, Kirtland snake, royal catchfly, glade mallow, snuffbox, and rayed bean are Category 2 candidate species known to occur in the vicinity of Gentile AFS.

The eastern massasauga is a venomous semiaquatic snake found in swamps, bogs, marshes, floodplains, and dry woodlands where it feeds on lizards, small rodents, and frogs. Although rarely found in water, the Kirtland snake

also occurs in the vicinity of aquatic habitats where it feeds on earthworms and slugs. These species are unlikely to occur on Gentile AFS due to the limited distribution and disturbed nature of their preferred habitat.

Royal catchfly is a perennial plant of prairies, open woods, and thickets. Extensive alteration of the natural plant communities on Gentile AFS have eliminated potential habitat for this species. The royal catchfly is not expected to occur on the station for the same reason. Glade mallow is a perennial herb of moist places. Potential jurisdictional wetlands and associated hydric soils on the station may serve as habitat for this species.

The snuffbox and rayed bean are mussels that can inhabit freshwater streams and could occur on the Great Miami River. Isolation of the drainages by urban development is preclusive to the occurrence of these species on Gentile AFS.

The USFWS, through informal consultation (Appendix I, Agency Letters and Consultation), has concurred with the Air Force findings that the sensitive species of concern discussed above do not have the potential to occur at Gentile AFS due to lack of habitat.

3.4.4.4 Sensitive Habitats. For the purposes of evaluating biological resources in this EIS, sensitive habitats include federally regulated wetlands; threatened, endangered, and sensitive species habitat; and plant communities that are considered by agencies to be unusual or of limited distribution and important seasonal use areas for wildlife (e.g., breeding areas). Potential wetlands are the only potential sensitive habitat on Gentile AFS.

Under federal definitions, wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (U.S. Army Corps of Engineers, 1987). The majority of jurisdictional wetlands in the United States meet three wetland delineation criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) and are subject to Section 404 of the CWA (Want, 1992).

Up to 2 acres of the West Branch of Little Beaver Creek and its associated drainages in the southern portion of the station may qualify as federal jurisdictional wetlands (see Figure 3.4-4). The drainages contain species indicative of wetlands, such as the black willow and black birch. The water in the drainages exists year-round on the station and provides the hydrological component for wetlands determinations. Although no wetland delineation has been conducted at Gentile AFS, soils in the southern portion of the station are Crosby series -- urban land complex (U.S. Department of Agriculture, 1976). The Crosby series contain hydric components and could support wetlands.

3.4.5 Cultural Resources

Cultural resources are prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reason. Cultural resources have been divided for ease of discussion into three main categories: prehistoric resources, historic structures and resources, and traditional resources. These types of resources are defined in Appendix E, Methods.

The ROI for the analysis of cultural resources includes, minimally, all areas within the station boundary, whether or not certain parcels would be subject to ground disturbance. For this analysis, the ROI is synonymous with the Area of Potential Effect (APE), as defined by regulations implementing the National Historic Preservation Act (NHPA). The potential conveyance of federal property to a private party or nonfederal agency constitutes an undertaking, or a project that falls under the requirements of cultural resource legislative mandates, because any historic properties located on that property would cease to be protected by federal law. However, impacts resulting from conveyance could be reduced to a non-adverse level by placing preservation covenants on the lease or disposal document. Reuse activities within designated parcels that may affect historic properties would require the reuser to comply with the requirements contained in the preservation covenants.

Numerous laws and regulations require federal agencies to consider the effects of a proposed project on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the federal agency proposing the action, and prescribe the relationship among other involved agencies (e.g., State Office of Historic Preservation, the Advisory Council on Historic Preservation). Methods used to achieve compliance with these requirements are presented in Appendix E, Methods.

Only those potential historic properties determined to be significant under cultural resources legislation are subject to protection or consideration by a federal agency. The quality of significance, in terms of applicability and of its integrity, to National Register of Historic Places (National Register) criteria is discussed in Appendix E, Methods. Significant cultural resources, either prehistoric or historic in age, are referred to as "historic properties." In compliance with the NHPA, the Air Force has initiated and completed the Section 106 review process with the Ohio SHPO. A records and literature search was performed at Gentile AFS in December 1993 and at the Ohio Historical Center in March 1994. In March 1995, further records and literature searches were performed at the Dayton Museum of Natural History, Wright State University Regional Archaeology Preservation Office, Montgomery County Historical Society, and at Gentile AFS.

3.4.5.1 Prehistoric Resources. The prehistory of the Gentile AFS region extends into the past for more than 14,000 years. Abundant archaeological resources in many parts of Ohio have enabled archaeologists to establish a chronology of the major cultural periods: the Paleo-Indian period (12,000-8000 Before Christ [B.C.]), the Archaic period (8000-1000 B.C.), the Woodland period (1000 B.C.- Anno Domini [A.D]. 1000), and the Fort Ancient period (1000-1750). Results of the records and literature search indicated that no archaeological resources surveys had been conducted at Gentile AFS, no prehistoric archaeological sites were recorded, and no prehistoric sites were listed in the National Register within the station boundaries.

An archaeological investigation, designed to identify cultural resources and assess their potential significance at Gentile AFS was conducted in March 1995. Research and field investigations confirmed that the majority of the station lacks soils integrity because of construction activities, which began in the 1940s. Subsurface testing was performed in specific areas where soils disturbance was not conclusively demonstrated. No prehistoric sites were found as a result of this testing. A Phase I Archaeological Investigation report was submitted to the Ohio SHPO for review of these findings. Concurrence has been received that the present project will have no effect on any properties listed or eligible for the National Register, and no further investigation is necessary unless the scope of the project changes (see Appendix I, Agency Letters and Consultation).

3.4.5.2 Historic Structures and Resources. The Historic era at Gentile AFS includes the first European Occupation (approximately 1750-1800), the establishment and growth of Montgomery County (1803-present), and the station's particular history, including the World War II and Cold War eras (1944-present).

The European Occupation of Ohio was initiated by France, having first established claim to the Ohio Valley in 1749. Following defeat in the French and Indian War, France renounced to England all claim to the Ohio Valley under the Treaty of Paris, signed in 1763. Later, by 1814, the native Shawnee had ceded all of their lands in southern Ohio and eastern Indiana to the United States under the Treaties of Greenville.

Montgomery County was constituted in 1803, with Dayton as the county seat. Extensive agricultural development throughout the 1800s brought over 136,000 acres of the county's 200,000 total acres under cultivation. The portion of Dayton township containing present-day Gentile AFS was reorganized as Van Buren Township in 1841. Development and commerce in Van Buren Township included agriculture, dairying, timber production, and stone and gravel quarries.

For a short period after World War I, the western portion of the area now known as Gentile AFS was home to the Johnson Aiplane and Supply

Company, which sold airplane parts and equipment, and took passengers on short flights.

Gentile AFS evolved from the need during World War II to consolidate supply operations of the U.S. Army Signal Corps Depot, which was located in 22 buildings in downtown Dayton and in 3 other cities throughout the United States. The station was constructed on 116 acres and opened in August 1944 as the Dayton Signal Corps Supply Agency. In 1945, the Signal Corps functions were integrated into the U.S. Army Air Force, and the installation was renamed the 862nd Army Air Force Specialized Depot. In 1951, 49 acres east of the existing installation were acquired through fee purchase. The land was used to construct additional facilities, which included Buildings 44, 45, 46, 47, 73, and 74. The station was renamed in honor of World War II flying ace Major Don S. Gentile (Gentile Air Force Specialized Depot), who lost his life during a training mission earlier that same year.

In 1955, the Air Force Logistics Command was formed and the official distinction between that operational organization and the actual installation was made. The organization was designated the Dayton Air Force Depot and the installation was officially called Gentile AFS.

In 1962, the newly formed Defense Supply Agency established DESC along with five other supply centers in the United States. The Dayton Air Force Depot was phased out and DESC became the principal organization at Gentile AFS. In 1977, the Defense Supply Agency was renamed the DLA to reflect its expanded mission. In the following years, DESC's role shifted away from inventorying electronics parts, and the agency began to develop systems for managing quality control and off-station supply from commercial manufacturers directly to client agencies.

The Commander's Residence (Building 49), otherwise known as the Bradford Residence, is the oldest structure on Gentile AFS, and the only structure that predates the construction of the station. The rectangular, two-and-one-half story house is located adjacent to Wilmington Pike, a road that dates to 1805. Information provided by the station indicates that the house was constructed in 1845 and was occupied until 1911, when it suffered a catastrophic fire. It was then rebuilt into its present form on the original, 2-foot-thick stone foundation.

While the tax records support the statement that the house was reconstructed in 1911, they also suggest that the fire occurred much earlier than was previously supposed. Given the low assessed value of the period 1881 to1910, it is reasonable to assume that the house was left unutilized during that time period.

In May 1989, Gentile AFS submitted an Ohio Historic Inventory form nominating the Commander's Residence to the National Register. The Ohio Historic Preservation Office did not concur with the nomination, as stated in

their letter dated June 28, 1989 (Appendix I, Agency Letters and Consultation).

The records and field investigation performed in March 1995 included subsurface testing of the area behind the Commander's Residence. Items indicative of a fire were found, although items adding to the understanding of the event's date were not discovered.

An inventory and evaluation of all permanent and temporary World War II- and Cold War-era facilities at Gentile AFS was performed in March 1995. The facilities were evaluated for their eligibility to be nominated to the National Register based upon standard Section 106 criteria for the evaluation of historic facilities. Additionally, the facilities were evaluated under the guidelines provided in the U.S. Air Force (1993) document Interim Guidance: Treatment of Cold War Historic Properties for U.S. Air Force Installations. This guidance establishes the interim criteria set by the Air Force for the evaluation of Cold War-era facilities.

Based upon an evaluation of all station facilities, it was determined that no facilities at Gentile AFS meet either National Register or Cold War-era criteria for historic properties. The Ohio SHPO concurred with the study results (see Appendix I, Agency Letters and Consultation).

Two Cold War-era facilities, Buildings 44 and 47, were separately inventoried in June, 1994, in order to facilitate interim leases. These buildings were found to be not eligible to the National Register. The SHPO concurred with these findings, contingent upon the results of the stationwide evaluation, as previously discussed.

3.4.5.3 Traditional Resources. Consultation has been initiated with the Native American Heritage Commission and the appropriate federally recognized tribes of Ohio to ascertain whether or not any Native American groups or individuals have concerns with or can identify sacred areas within the Gentile AFS environs.

Traditional resources can include archaeological sites, burial sites, ceremonial areas, caves, mountains, water sources, trails, plant habitat or gathering areas, or any other natural area important to a culture for religious or heritage reasons. Significant traditional sites are subject to the same regulations and afforded the same protection as other types of historic properties. Any traditional sites identified would be attributed to indigenous Native American groups. No traditional sites associated with Native American groups or any other cultural group (e.g., Chinese, African-American) have been identified at Gentile AFS.

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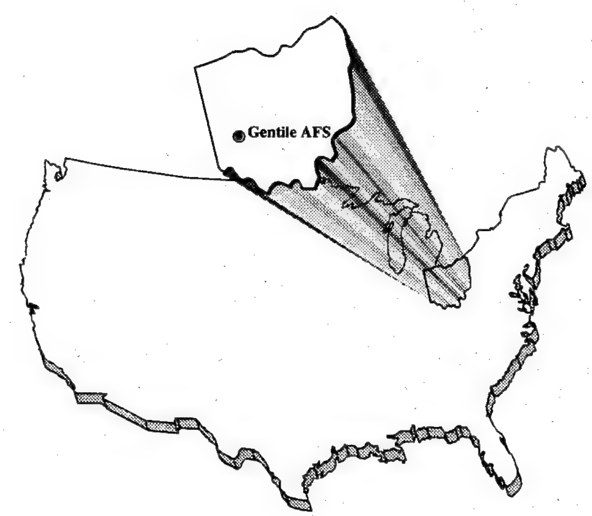


CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter discusses the potential environmental consequences associated with the Proposed Action and alternatives. To provide the context in which potential environmental impacts may occur, discussions of potential changes to the local communities including population, land use and aesthetics, transportation, and community and public utility services are included in this section. In addition, issues related to current and future management of hazardous materials and hazardous wastes are discussed. Impacts to the physical and natural environment are evaluated for geology and soils, water resources, air quality, biological resources, and cultural resources. These impacts may occur as a direct result of disposal activities or as an indirect result caused by changes within the local communities. Possible mitigation measures to minimize or eliminate the adverse environmental impacts are also presented.

Cumulative impacts result from "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (Council on Environmental Quality, 1978). A single-family residential development consisting of approximately 35 acres and 113 units is being developed immediately southeast of Gentile AFS that could result in cumulative impacts. The main access to this development is from Wilmington Pike at the Eureka Drive intersection at the southeast corner of Gentile AFS.

Means of mitigating adverse environmental impacts that may result from implementation of the Proposed Action or alternatives by property recipients are discussed as required by NEPA. Mitigation measures are suggested for those components likely to experience substantial and adverse changes under any or all of these alternatives. Potential mitigation measures depend upon the particular resource affected. In general, however, mitigation measures are defined in CEQ regulations as actions that include:

(a) Avoiding the impact altogether by not taking an action or certain aspects of the action

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation

(c) Rectifying the impacts by repairing, rehabilitating, or restoring the affected environment

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action

(e) Compensating for the impact by replacing or providing substitute resources or environments.

A discussion of the effectiveness of mitigation measures is included for those resource areas where it is applicable. Where appropriate, a discussion regarding the probability of success associated with a particular mitigation is included.

Since most potential environmental impacts would result directly from the reuse by others, the Air Force would not typically be responsible for implementing mitigation. Full responsibility of suggested mitigation, therefore, would be primarily borne by future property recipients or local government agencies.

Although reuse development would be decided by recipients and local zoning authorities, probable reuse scenarios were evaluated to analyze the potential environmental impacts.

Alternatives are defined for this analysis on the basis of (1) plans of local communities and interested individuals, (2) general land use planning considerations, and (3) Air Force-generated plans to provide a broad range of reuse options. Reuse scenarios considered in this EIS must be sufficiently detailed to permit environmental analysis. Initial concepts and plans are taken as starting points for scenarios to be analyzed. Available information on any reuse alternative is then supplemented with economic, demographic, transportation, and other planning data to provide a reuse scenario for analysis.

4.2 LOCAL COMMUNITY

This section discusses potential effects on local communities as a result of the disposal of Gentile AFS.

4.2.1 Community Setting

Socioeconomic effects will be addressed only to the extent that they are interrelated with the biophysical environment. A complete assessment of socioeconomic effects is presented in the Socioeconomic Impact Analysis Study for Disposal of Gentile Air Force Station, Ohio, a separate non-NEPA document. The following discussion is limited to key employment and population effects of the Proposed Action, Mixed Use Alternative, and Industrial Alternative in comparison to projected conditions under the No-Action Alternative.

Under post-closure conditions without station reuse (No-Action Alternative), the total employment in the ROI is forecasted to increase from 543,605 at closure to 607,416 in 2016, an average annual growth rate of 0.56 percent per year. The total ROI population without reuse would increase from 964,317 persons at closure to 1,018,752 in 2016, an average annual increase of 0.27 percent per year.

This analysis recognizes the potential for community impacts arising from "announcement effects" stemming from information regarding the station's closure or reuse. However, changes associated with announcement effects, while potentially important, are highly unpredictable and difficult to quantify; therefore, such effects are excluded from the quantitative analysis in this study, and are not included in numeric data presented in this report. Such announcement may impact community perceptions and, in turn, could have important local economic effects. An example would be the in-migration of people anticipating employment under one of the reuse options. If it were later announced that the No-Action Alternative was chosen, many of the newcomers would leave the area to seek employment elsewhere. Such an effect could, therefore, result in an initial, temporary increase in population followed by a decline in population as people leave the area.

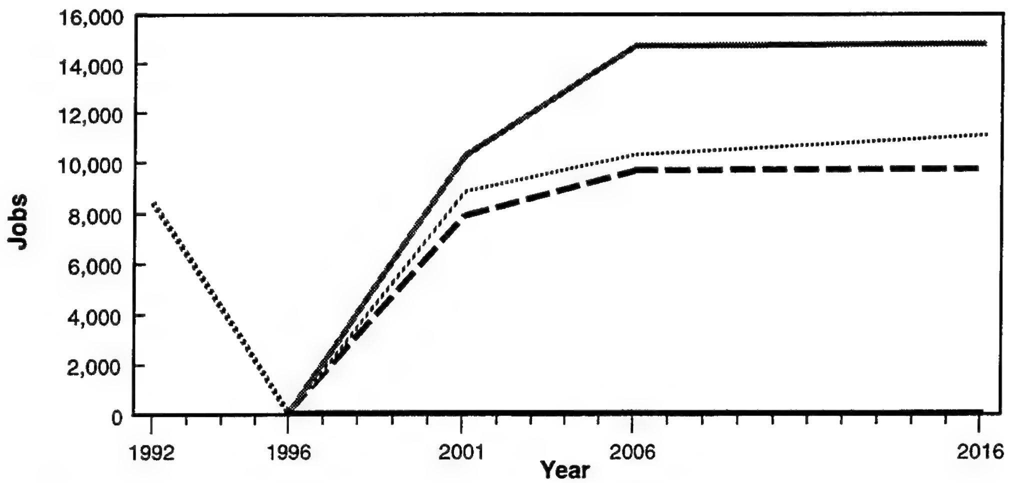
4.2.1.1 Proposed Action. Reuse activities under the Proposed Action would increase employment by 14,682 jobs (5,737 direct and 8,945 secondary) by 2016, over the 5 direct and 10 secondary jobs under the No-Action Alternative. Direct jobs would be located on station property and secondary jobs would be created throughout the ROI. A total of 5.0 percent of direct jobs and 1.0 percent of the secondary jobs are projected to be filled by in-migrants. Total employment in the ROI would be 622,098 in 2016 under the Proposed Action, an increase of 2.4 percent over No-Action Alternative projections for that year. ROI reuse-related employment growth is projected to average 0.68 percent annually between closure and 2016. Figure 4.2-1 shows the effects of the Proposed Action and alternatives on employment levels in the ROI.

Population in the ROI would increase by 1,187 from closure to 2016 as a result of new employment generated by the Proposed Action (Figure 4.2-2). Thus, ROI population is expected to increase by an average of 0.28 percent per year between closure and 2016, to a total of 1,019,939; this figure represents an increase of 0.1 percent over No-Action Alternative projections for that year. Most of the in-migrants are expected to locate in Montgomery County, primarily in the cities of Dayton, Huber Heights, and Kettering; and Greene County in the city of Beavercreek.

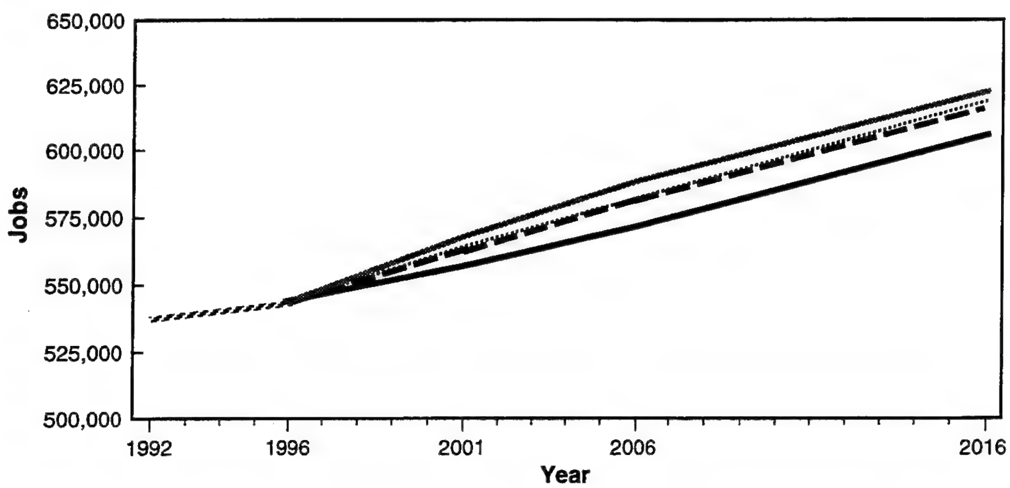
4.2.1.2 Mixed Use Alternative. The level of economic activity under this alternative would be less than reported for the Proposed Action. Reuse under this alternative would increase employment by 10,949 jobs (4,314 direct and 6,635 secondary) in the ROI by 2016 (see Figure 4.2-1), over the

ALTERNATIVE	1996 [a]	2001	2006	2016
Proposed Action [c]	15	10,206	14,682	14,682
Mixed Use Alternative	15	8,794	10,202	10,949
Industrial Alternative [c]	15	7,843	9,652	9,652

Reuse-Related Employment Effects [b]



Reuse-Related Employment Effects [b]



Total Region of Influence (ROI) Employment Including Reuse Effects

EXPLANATION

- Preclosure
- Proposed Action
- Mixed Use Alternative
- Industrial Alternative
- No-Action Alternative

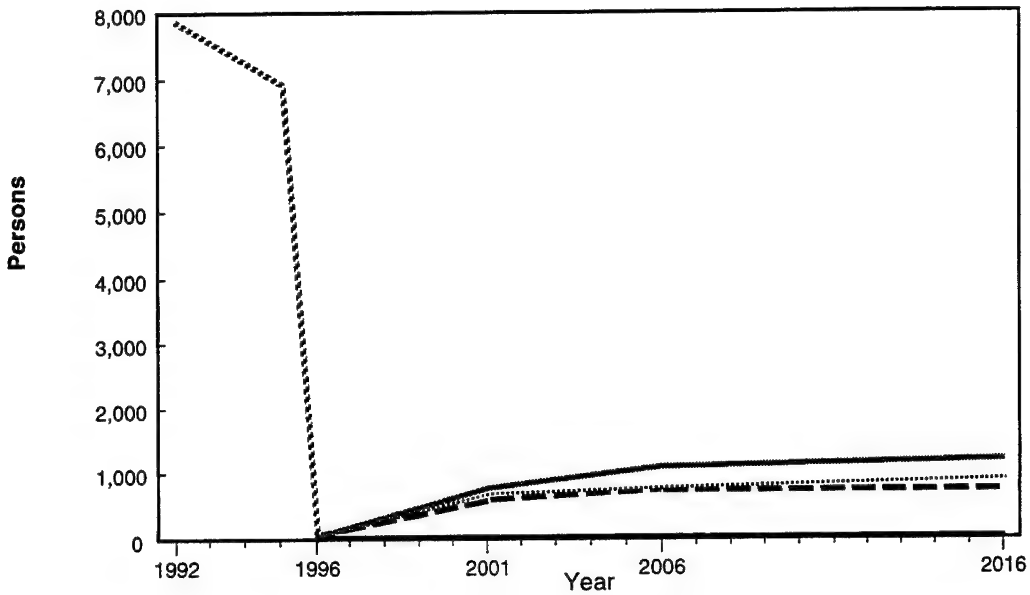
(a) The 1996 values represent total station-related employment under the closure baseline.
(b) Employment effects include both direct and secondary employment and represent the change in employment relative to the No-Action Alternative.
(c) Reuse-related employment would reach its maximum by 2006 as a result of full utilization of Gentile AFS facilities.

Reuse-Related Employment Effects

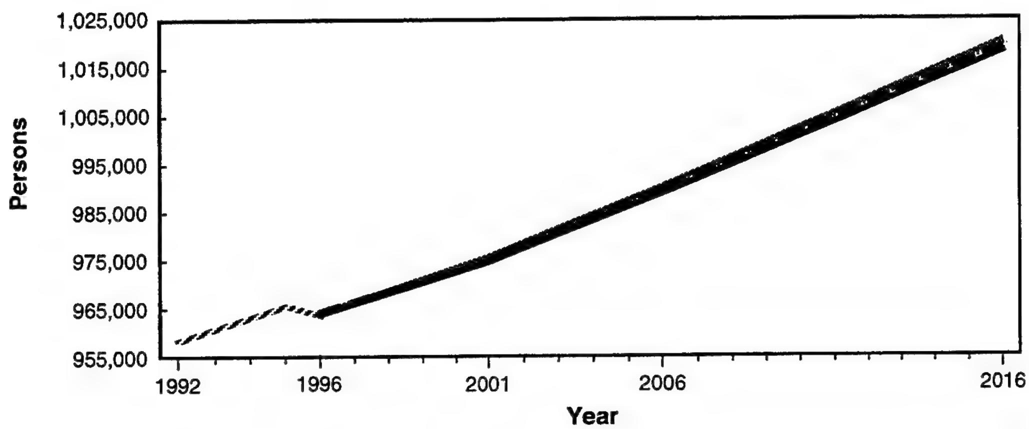
Figure 4.2-1

ALTERNATIVE	1996 [a]	2001	2006	2016
Proposed Action	0	745	1,119	1,187
Mixed Use Alternative	0	634	775	889
Industrial Alternative	0	577	726	772

Reuse-Related Population Effects



Reuse-Related Population Effects



Total ROI Population Including Reuse

EXPLANATION

- Preclosure
- Proposed Action
- Mixed Use Alternative
- Industrial Alternative
- No-Action Alternative

Note: (a) 1996 represents closure conditions. Reuse-related population effects are the persons that would move into the ROI solely as a result of reuse.

Reuse-Related Population Effects

Figure 4.2-2

5 direct jobs and 10 secondary jobs under the No-Action Alternative. A total of 5.0 percent of direct jobs and 1.0 percent of secondary jobs are projected to be filled by in-migrants. Total employment in the ROI would be 618,365 by 2016 under this alternative, an increase of 1.8 percent over the No-Action Alternative projections for this year. ROI employment growth is expected to average 0.65 percent per year between closure and 2016. The geographic distribution of employment and population growth would be similar to that discussed for the Proposed Action.

Population in the ROI is projected to increase by 889 persons between closure and 2016 (see Figure 4.2-2), an average growth rate of 0.28 percent annually. Total population in the ROI in 2016 would reach 1,019,641 with this alternative, an increase of 0.1 percent over the No-Action Alternative for that year.

4.2.1.3 Industrial Alternative. The level of economic activity under this alternative would be less than reported for the Proposed Action, and slightly less than the Mixed Use Alternative. Reuse under this alternative would increase employment by 9,652 jobs (3,707 direct and 5,945 secondary) in the ROI by 2016 (see Figure 4.2-1), over the 5 direct jobs and 10 secondary jobs under the No-Action Alternative. A total of 5.0 percent of direct jobs and 1.0 percent of secondary jobs are projected to be filled by in-migrants. Total employment in the ROI would be 617,068 by 2016 under this alternative, an increase of 1.6 percent over the No-Action Alternative projections for this year. ROI employment growth is expected to average 0.64 percent per year between closure and 2016. The geographic distribution of employment and population growth would be similar to that discussed for the Proposed Action and the Mixed Use Alternative.

Population in the ROI is projected to increase by 772 persons between closure and 2016 (see Figure 4.2-2), an average growth rate of 0.28 percent annually. Total population in the ROI in 2016 would reach 1,019,524 with this alternative, an increase of 0.1 percent over the No-Action Alternative for that year.

4.2.1.4 No-Action Alternative. Under the No-Action Alternative, station-related employment would be similar to closure baseline conditions throughout the 20-year analysis period. A total of 5 direct and 10 secondary jobs would be associated with caretaker activities. By 2016, total employment in the ROI is projected to reach 607,416 and total population is expected to be 1,018,752.

4.2.2 Land Use and Aesthetics

This section discusses the Proposed Action and the alternatives relative to land use and planning to determine potential impacts in terms of land use plans, zoning, land use, and aesthetics.

4.2.2.1 Proposed Action

Land Use Plans and Regulations. The city of Kettering's comprehensive plan is composed of individual neighborhood plans. Of the three Kettering neighborhoods adjacent to Gentile AFS, only Wiles Creek Neighborhood Plan addresses the station property. The Proposed Action includes a neighborhood park identified as needed in the Wiles Creek Neighborhood Plan. The Proposed Action has identified the need to evaluate flood control opportunities on Gentile AFS, as noted in the Wiles Creek Neighborhood Plan. The Acorn residential neighborhood, southwest of the station, is to be preserved according to the neighborhood plan and the Proposed Action. The Patterson Park neighborhood planning district, in the city of Dayton northwest of the station, recommends against allowing any additional nonresidential traffic through the neighborhood, which the Proposed Action follows. As described in Section 2.2, the DESC Reuse Committee is responsible for planning the reuse and development of the station, and managing reuse activities.

It is assumed that the modifications to local land use plans would be made by the appropriate bodies to incorporate the ultimate civilian reuse plan chosen for Gentile AFS.

Zoning. The City of Kettering Planning Commission has recommended that the Reuse Plan Gentile Air Force Station be adopted as an Economic Development Overlay (EDO) District for redevelopment of Gentile AFS. This EDO district modifies the existing industrial zoning, allowing more flexibility than the original zoning designation. It is assumed the city will develop specific standards for the EDO to address land use, building architecture, building placement and setback, landscaping and screening, circulation and parking, and other design criteria. Other rezoning may take place, both on and off station (as local government bodies deem necessary), to help implement the chosen plan in accordance with the desires of the local communities.

Land Use. The Proposed Action would decrease both industrial and commercial land use acreage to 75 percent of existing conditions. Existing public facilities/recreation acreage would more than double. Institutional medical and institutional educational land uses would be eliminated.

Changes in land use associated with the Proposed Action would generally include conversion of industrial, commercial, and public facilities/recreation areas to other uses. A portion of the industrial area would be converted to public facilities/recreation uses. Two small public facilities/ recreation areas and a small commercial area on the west side of the station and two small residential areas on the east side would be eliminated. The institutional educational area in the southern portion of the station would be eliminated. The commercial area in the northern section would be retained, and a new commercial area would be developed in the south-central area of the station

that is presently public facilities/recreation. Federal land use would occur in the eastern area.

Land use compatibility issues in the Proposed Action would be reduced when compared to existing uses. Gentile AFS is surrounded by residential neighborhoods with commercial use to the north and southeast along Wilmington Pike. Industrial land use adjacent to residential areas is not generally desirable. In the Proposed Action, the industrial land use acreage is considerably reduced and the small outbuildings on the west side of the station would be demolished, thus reducing incompatibility of land uses. The neighborhood park in the southern portion of the station could provide for flood control and is compatible with adjacent residential neighborhoods. There would be no new traffic access to any of the existing residential areas.

Aesthetics. Civilian reuse of the station property is expected to improve the general aesthetics by providing a new central entrance into the station, elimination of the small outbuildings along the western portion of the station, removal of coal storage, and a landscape treatment to visually enhance and unify the area. New landscaped parking areas would be developed with perimeter landscaping to buffer the entire station from adjacent residential areas.

Mitigation Measures. No substantial adverse land use-related environmental impacts are anticipated under this alternative; therefore, no mitigation measures would be required.

4.2.2.2 Mixed Use Alternative

Land Use Plans and Regulations. The Mixed Use Alternative includes a neighborhood park identified as required in the Wiles Creek Neighborhood Plan. Patterson Park neighborhood planning district (in Dayton) recommends against allowing any additional nonresidential traffic through the neighborhood. This alternative would generate traffic associated with the industrial land use area in the northern portion of the station; however, truck traffic would not access the station from the Patterson Park neighborhood. As described in Section 2.2, the DESC Reuse Committee is responsible for planning the reuse and development of the station, and managing reuse activities.

It is assumed that the modifications to local land use plans would be made by the appropriate bodies to incorporate the ultimate reuse plan chosen for Gentile AFS.

Zoning. Modifications to the existing industrial zoning would be necessary to accommodate the Mixed Use Alternative. It is assumed that Gentile AFS would be rezoned for industrial, commercial, residential, public facilities/ recreation, and federal land uses to help implement the plan.

Land Use. The Mixed Use Alternative would decrease industrial land use acreage to 55 percent of existing conditions. Commercial and public facilities/recreation land use acreage would be similar to existing conditions. Institutional medical and institutional educational land use would be eliminated. Residential land use would increase from 3 acres to 25 acres.

Changes in land use associated with the Mixed Use Alternative would generally include conversion of industrial, commercial, and public facilities/recreation areas to other uses. The entire northern third of the station would be converted to industrial use. The middle third of the station would have commercial use on the west side and federal use on the east side. The lower third of the station would have two residential areas separated by public facilities/recreation land use.

The Mixed Use Alternative would have less compatibility issues than the other alternatives. In this alternative, the industrial land use acreage is considerably reduced and concentrated in the northern portion of the station. Also, the small outbuildings located on the west side of the station would be demolished, thus reducing incompatibility with the adjacent neighborhood. The residential and public facilities/recreation areas are compatible with adjacent existing residential neighborhoods. The neighborhood park in the southern portion of the station could provide flood control, as well as needed recreational facilities. There would be new traffic access to existing residential streets to access the new residential development. Access would also be provided to the northern portion of the station from the Patterson Park neighborhood into the industrial area. New access points to Gentile AFS would not create any incompatibility issues.

Aesthetics. The Mixed Use Alternative would have aesthetic improvements similar to the Proposed Action. There would be a new central entrance into the station, elimination of the small outbuildings along the western portion of the station, removal of coal storage, and inclusion of landscape treatments to visually enhance and unify the area. New landscaped parking areas would be developed with perimeter landscaping to buffer the entire station from adjacent residential areas. In addition, two major buildings would be removed for parking expansion, giving a more open appearance to the station.

Mitigation Measures. No substantial adverse land use-related environmental impacts are anticipated under this alternative; therefore, no mitigation measures would be required.

4.2.2.3 Industrial Alternative

Land Use Plans and Regulations. The Industrial Alternative includes a neighborhood park as identified in the Wiles Creek Neighborhood Plan. The Patterson Park neighborhood planning district recommends against allowing any additional nonresidential traffic through the neighborhood, which the

Industrial Alternative follows. As described in Section 2.2, the DESC Reuse Committee is responsible for planning the reuse and development of the station, and managing reuse activities.

It is assumed that the modifications to local land use plans would be made by the appropriate bodies to incorporate the ultimate reuse plan chosen for Gentile AFS.

Zoning. Modifications to the existing industrial zoning would be necessary to accommodate reuse. It is assumed that Gentile AFS would be rezoned for industrial, commercial, residential, public facilities/recreation, and federal land uses if this alternative was chosen.

Land Use. The Industrial Alternative would decrease industrial land use acreage to 75 percent of existing conditions. Commercial land use would decrease to 40 percent of existing acreage. Public facilities/recreation acreage would triple existing acreage. Institutional medical and institutional educational land use would be eliminated. Residential land use would double.

Changes in land use associated with the Industrial Alternative generally would include conversion of industrial, commercial, and public facilities/ recreation areas to other uses. The northern third of the station would be converted to industrial use. The middle third of the station would have industrial/warehouse use on the west side, public facilities/recreation use in the center, and federal and commercial use on the east side. The lower third of the station would have public facilities/recreation and residential uses.

Land use compatibility in the Industrial Alternative would have less compatibility issues when compared to existing uses; however, compatibility issues would be greater than the other alternatives. In the Industrial Alternative, the industrial land use acreage is reduced and concentrated in the north and west central portions of the station. Also, the small outbuildings located on the west side of the station would be demolished, thus reducing incompatibility with the adjacent neighborhood. The residential and public facilities/recreation areas are compatible with adjacent existing residential neighborhoods. The neighborhood park in the southern portion of the station could provide flood control, as well as needed recreational facilities. There would be one new traffic access point to existing residential streets to provide access into the new residential development in the southern portion of the station.

Aesthetics. The Industrial Alternative would have aesthetic improvements similar to the Proposed Action. There would be a new central entrance into the station, elimination of the small outbuildings along the western portion of the station, removal of coal storage, and a landscape treatment to visually enhance and unify the area. New landscaped parking areas would be developed with perimeter landscaping to buffer the entire station from

adjacent residential areas. In addition, several major facilities would be removed for parking expansion, giving a more open appearance to the station.

Mitigation Measures. No substantial adverse land use-related environmental impacts are anticipated under this alternative; therefore, no mitigation measures would be required.

4.2.2.4 No-Action Alternative. The No-Action Alternative would cause no physical change in on-station land use from conditions at closure. Land use described under closure baseline conditions would continue.

Aesthetics. The No-Action Alternative could adversely affect the visual and aesthetic quality of the station and the surrounding area. Some landscaped portions of the station and facilities would receive less intensive maintenance.

4.2.3 Transportation

Roadways. Reuse-related effects on roadway traffic were assessed by estimating the number of trips generated by each land use considering employees, visitors, residents, and service vehicles associated with construction and all other on-station activities for the Proposed Action and alternatives. Principal trip-generating land uses include industrial, commercial, public facilities/recreation, residential, and federal land uses.

The transportation analysis used the standard analysis techniques of trip generation, trip distribution, and traffic assignment. Trip generation was based on applying the trip rates from the Institute of Transportation Engineers Trip Generation Manual to the existing and proposed land uses to determine total daily trips. Daily trips were distributed to and from the project site based on existing travel patterns for commuters and on the location of residences of station personnel. It was generally assumed that the residential choices of reuse-related employees would correspond to those of current station personnel.

Based on the results of the trip distribution analysis discussed above, trips were assigned to the surrounding roadway network along existing travel routes to the study area.

The capacities of the key roadway segments in the study area are dependent upon the signal timings at each major intersection. These signals are traffic actuated (i.e., the cycles change according to the dynamics of the traffic volume). For the purpose of this analysis, capacity is defined as 900 vehicles per hour per lane. The afternoon PHV on key roadway segments, for which counts were unavailable, were estimated to be 6.0 percent of the ADT, which is consistent with the PHV within the area when counts were available. The amount of growth in background traffic was based on

projections of population and employment in the study area and surrounding region, and this growth rate was assumed to be 0.25 percent per year.

Traffic effects were determined based on the LOS changes for each of the key roadways. Analyses were conducted for each reuse alternative and the No-Action Alternative. The latter alternative was included to identify the incremental impact of project-generated traffic over the traffic expected as a result of other growth in the region.

4.2.3.1 Proposed Action

Roadways. Traffic generated from the installation as a result of the Proposed Action is estimated to be 16,950 daily vehicle trips by 2016 (Table 4.2-1). Approximately 66 percent of the total reuse-related trips would be generated by industrial and commercial uses. Other major land uses include public facilities/recreation, and federal land uses.

Table 4.2-1. Average Daily Trip Generation

	Year		
	2001	2006	2016
Proposed Action	11,350	16,950	16,950
Mixed Use Alternative	8,350	11,300	12,300
Industrial Alternative	7,500	9,400	9,400
No-Action Alternative	50	50	50

Note: All values are rounded to the nearest 50. Values represent average weekday trips.

Local. By 2001, the traffic resulting from reuse would increase the afternoon PHV on Wilmington Pike between Smithville Road and Dorothy Lane to 2,100 vehicles, an increase of 650 vehicles over the No-Action Alternative (Table 4.2-2). This increase would degrade the operating conditions on this segment to LOS F, as compared to LOS E under the No-Action Alternative. The operating condition on the section of Wilmington Pike between Forrer Boulevard and Smithville Road would degrade to LOS E by 2006, and have a peak hour volume of 1,500 vehicles; an increase of 900 vehicles over the No-Action Alternative operating at LOS A. Both segments of Dorothy Lane, east of Wilmington Pike to Woodman Drive and west to Shroyer Road, would operate at LOS E by 2006.

All other key local road segments would operate at LOS D or better through 2016.

Table 4.2-2. Peak-Hour Traffic Volumes and LOS on Key Roads in the ROI

			1996		2001		2006		2016	
Roadway	Segment	Capacity	PHV	LOS	PHV	LOS	PHV	LOS	PHV	LOS
PROPOSED ACTION										
Wilmington Pike	Patterson Road to Forrer Boulevard	1,800	500	A	1,050	C	1,350	D	1,350	D
Wilmington Pike	Forrer Boulevard to Smithville Road	1,800	600	A	1,200	C	1,500	E	1,500	E
Wilmington Pike	Smithville Road to Dorothy Lane	1,800	1,400	D	2,100	F	2,450	F	2,500	F
Dorothy Lane	Wilmington Pike to Shroyer Road	1,800	1,250	C	1,350	D	1,450	E	1,450	E
Dorothy Lane	Wilmington Pike to Woodman Drive	1,800	1,050	C	1,350	D	1,500	E	1,500	E
Smithville Road	Wilmington Pike to Patterson Road	1,800	900	B	1,200	C	1,400	D	1,400	D
Forrer Boulevard	Wilmington Pike to Smithville Road	1,800	150	A	500	A	650	B	650	B
Patterson Road	Shafor Boulevard to Wilmington Pike	1,800	250	A	350	B	400	B	400	B
MIXED USE ALTERNATIVE										
Wilmington Pike	Patterson Road to Forrer Boulevard	1,800	500	A	1,050	C	1,250	C	1,300	D
Wilmington Pike	Forrer Boulevard to Smithville Road	1,800	600	A	900	B	1,000	C	1,050	C
Wilmington Pike	Smithville Road to Dorothy Lane	1,800	1,400	D	2,100	F	2,300	F	2,400	F
Dorothy Lane	Wilmington Pike to Shroyer Road	1,800	1,250	C	1,350	D	1,400	D	1,450	E
Dorothy Lane	Wilmington Pike to Woodman Drive	1,800	1,050	C	1,350	D	1,450	E	1,500	E
Smithville Road	Wilmington Pike to Patterson Road	1,800	900	B	1,250	C	1,300	D	1,400	D
Forrer Boulevard	Wilmington Pike to Smithville Road	1,800	150	A	450	A	550	A	600	A
Patterson Road	Shafor Boulevard to Wilmington Pike	1,800	250	A	350	B	400	B	400	B
INDUSTRIAL ALTERNATIVE										
Wilmington Pike	Patterson Road to Forrer Boulevard	1,800	500	A	1,050	C	1,150	C	1,200	C
Wilmington Pike	Forrer Boulevard to Smithville Road	1,800	600	A	900	B	950	B	1,000	C
Wilmington Pike	Smithville Road to Dorothy Lane	1,800	1,400	D	2,100	F	2,250	F	2,300	F
Dorothy Lane	Wilmington Pike to Shroyer Road	1,800	1,250	C	1,350	D	1,400	D	1,450	E
Dorothy Lane	Wilmington Pike to Woodman Drive	1,800	1,050	C	1,350	D	1,400	D	1,450	E
Smithville Road	Wilmington Pike to Patterson Road	1,800	900	B	1,200	C	1,300	D	1,300	D
Forrer Boulevard	Wilmington Pike to Smithville Road	1,800	150	A	450	A	500	A	500	A
Patterson Road	Shafor Boulevard to Wilmington Pike	1,800	250	A	350	B	350	B	400	B
NO-ACTION ALTERNATIVE										
Wilmington Pike	Patterson Road to Forrer Boulevard	1,800	500	A	500	A	550	A	550	A
Wilmington Pike	Forrer Boulevard to Smithville Road	1,800	600	A	600	A	600	A	650	B
Wilmington Pike	Smithville Road to Dorothy Lane	1,800	1,400	D	1,450	E	1,450	E	1,500	E
Dorothy Lane	Wilmington Pike to Shroyer Road	1,800	1,250	C	1,250	C	1,300	D	1,300	D
Dorothy Lane	Wilmington Pike to Woodman Drive	1,800	1,050	C	1,050	C	1,100	C	1,100	C
Smithville Road	Wilmington Pike to Patterson Road	1,800	900	B	900	B	950	B	950	B
Forrer Boulevard	Wilmington Pike to Smithville Road	1,800	150	A	150	A	150	A	150	A
Patterson Road	Shafor Boulevard to Wilmington Pike	1,800	250	A	250	A	250	A	250	A

Note: All traffic volume figures are rounded to the nearest 50
LOS = level of service
PHV = peak-hour volume

On-Station. As part of the eventual site development plan, internal circulation would accommodate reuse-related vehicular and pedestrian activities, and provide an acceptable LOS and adequate access from the local road network. Redevelopment plans are expected to incorporate internal circulation requirements that meet local planning objectives and standards.

Mitigation Measures. The city of Kettering could implement a selected widening of road segments and intersection channelization and signalization treatments to bring the segment of Wilmington Pike from Smithville Road to Dorothy Lane to an acceptable LOS.

4.2.3.2 Mixed Use Alternative

Roadways. Traffic generated from the installation as a result of the Mixed Use Alternative is estimated to be 12,300 daily vehicle trips by 2016 (see Table 4.2-1). Approximately 65 percent of the total reuse-related trips would be generated by industrial and commercial uses. Other major land uses include public facilities/recreation, residential, and federal land uses.

Local. By 2001, the traffic resulting from reuse would increase the afternoon PHV on Wilmington Pike between Smithville Road and Dorothy Lane to 2,100 vehicles, an increase of 650 vehicles over the No-Action Alternative (see Table 4.2-2). This increase would degrade the operating conditions on this segment to LOS F, as compared to LOS E under the No-Action Alternative. The segment of Dorothy Lane between Wilmington Pike and Shroyer Road would operate at LOS E by 2016, and the segment from Wilmington Pike to Woodman Road would operate at LOS E by 2006. The two access points at Imperial Boulevard and Ansel Drive would serve to alleviate some congestion on Wilmington Pike between Forrer Boulevard and Smithville Road during the afternoon peak hour.

Some traffic associated with the Mixed Use Alternative activities would utilize the new access point from the Patterson Park neighborhood. The new access point would be utilized by commuter traffic only; no truck traffic or deliveries would access the site from this entry. For this reason, no conflict with the Patterson Park neighborhood planning district is expected.

All other key local road segments would operate at LOS D or better through 2016.

On-Station. As part of the eventual site development plan, internal circulation would accommodate reuse-related vehicular and pedestrian activities, and provide an acceptable LOS and adequate access from the local road network. Redevelopment plans are expected to incorporate internal circulation requirements that meet local planning objectives and standards.

Mitigation Measures. The city of Kettering could implement a selected widening of road segments and intersection channelization and signalization

treatments to bring the segment of Wilmington Pike from Smithville Road to Dorothy Lane to an acceptable LOS.

4.2.3.3 Industrial Alternative

Roadways. Traffic generated from the installation as a result of the Industrial Alternative is estimated to be 9,400 daily vehicle trips by 2016 (see Table 4.2-1). By 2016, approximately 69 percent of the total reuse-related trips would be generated by industrial and commercial uses. Other major land uses include public facilities/recreation, residential, and federal land uses.

Local. By 2001, the traffic resulting from reuse would increase the afternoon PHV on Wilmington Pike between Smithville Road and Dorothy Lane to 2,100 vehicles, an increase of 650 vehicles over the No-Action Alternative (see Table 4.2-2). This increase would degrade the operating conditions on this segment to LOS F, as compared to LOS E under the No-Action Alternative. The segments of Dorothy Lane from Wilmington Pike to Woodman Drive, and Wilmington Pike to Shroyer Road would operate at LOS E by 2016.

All other key local road segments would operate at LOS D or better throughout the period of analysis.

On-Station. As part of the eventual site development plan, internal circulation must accommodate reuse-related vehicular and pedestrian activities, and provide an acceptable LOS and adequate access from the local road network. Redevelopment plans are expected to incorporate internal circulation requirements that meet local planning objectives and standards.

Mitigation Measures. The city of Kettering could implement a selected widening of road segments and intersection channelization and signalization treatments to bring the segment of Wilmington Pike from Smithville Road to Dorothy Lane to an acceptable LOS.

4.2.3.4 No-Action Alternative

Roadways. This alternative will result in the station property being placed in caretaker status. Traffic generated on the roads within the ROI as a result of the No-Action Alternative is estimated to be 50 daily vehicle trips by 2016 (see Table 4.2-1).

Under the No-Action Alternative, the expected general ROI population growth and development unrelated to reuse of Gentile AFS would still lead to traffic volume increases on local roadways through 2016. It is projected that non-reuse-related traffic volumes on key roads would increase by 0.25 percent annually during the period of analysis.

Table 4.2-2 also presents the projected baseline PHV on key roads and the associated LOS that would result under the No-Action Alternative. Under this alternative, afternoon peak-hour traffic by 2001 is projected to be 1,450 vehicles on Wilmington Pike between Smithville Road and Dorothy Lane, thus bringing the level of service to LOS E where it would remain through 2016. All other key road segments would operate at LOS D or better.

4.2.4 Utilities

Direct and indirect changes in future utility use for each alternative were estimated based on historic, preclosure, and per capita average daily use on Gentile AFS and in the ROI. Utility consumption projected for Gentile AFS is determined from the average daily number of employees and projected land uses. Utility consumption estimates off station are determined using average increase in per capita population. These factors were applied to projections of numbers of future residents and employees associated with each of the alternatives including on-station and off-station effects. Table 4.2-3 shows the projected changes in utility demand for 5, 10, and 20 years after closure. The figures shown for the No-Action Alternative generally reflect the changes expected in utility use in the area without redevelopment of the station. The other alternatives reflect growth anticipated with station reuse.

4.2.4.1 Proposed Action. Table 4.2-3 presents a summary of ROI utility demands and percentage increases associated with the Proposed Action.

Water Demand. The total average daily water demand in the ROI would increase by 0.30 MGD or 0.37 percent over the No-Action Alternative projections by 2016.

With the capacity to treat a total of 192 MGD of water in the ROI, the city of Dayton would have adequate capacity to meet the demands associated with the Proposed Action.

On-station potable water use would increase from 0.007 MGD at closure in 1996 to 0.22 MGD by 2016. Reuse of the on-station system may require certain improvements depending on the type and location of development that occurs. Once specific development proposals are identified, improvements can be designed.

Wastewater. The Proposed Action would increase the total projected wastewater flow in the ROI over No-Action Alternative projections by 0.25 MGD, or 0.3 percent, to 83.56 MGD by 2016. The increase in wastewater generation would be adequately met by the city of Dayton and Montgomery County treatment systems, which have a treatment capacity of 105 MGD.

Table 4.2-3. Total Projected Utility Consumption in the ROI

	2001			2006			2016		
	Total ROI	Reuse-Related	Percent Increase	Total ROI	Reuse-Related	Percent Increase	Total ROI	Reuse-Related	Percent Increase
Water Consumption (MGD)									
No-Action Alternative	76.38			77.34			79.10		
Proposed Action	76.58	0.20	0.26	77.63	0.29	0.38	79.40	0.30	0.37
Mixed Use Alternative	76.61	0.23	0.30	77.65	0.31	0.40	79.42	0.32	0.41
Industrial Alternative	76.55	0.17	0.23	77.56	0.22	0.28	79.32	0.22	0.28
Wastewater Treatment (MGD)									
No-Action Alternative	80.25			81.25			83.31		
Proposed Action	80.41	0.16	0.20	81.49	0.24	0.30	83.56	0.25	0.30
Mixed Use Alternative	80.44	0.19	0.23	81.51	0.26	0.32	83.58	0.27	0.33
Industrial Alternative	80.39	0.14	0.17	81.42	0.17	0.21	83.49	0.18	0.21
Solid Waste Disposal (tons per day)									
No-Action Alternative	364.20			438.20			447.04		
Proposed Action	379.73	15.53	4.26	461.25	23.05	5.26	470.21	23.17	5.18
Mixed Use Alternative	378.59	14.39	3.95	455.61	17.41	3.97	465.60	18.56	4.15
Industrial Alternative	376.95	12.75	3.50	454.00	15.80	3.61	462.92	15.88	3.55
Electrical Consumption (MWH per day)									
No-Action Alternative	45,202.00			47,507.00			52,478.00		
Proposed Action	45,266.94	64.94	0.14	47,604.29	97.29	0.20	52,576.00	98.00	0.19
Mixed Use Alternative	45,268.44	66.44	0.15	47,587.58	80.58	0.17	52,562.36	84.36	0.16
Industrial Alternative	45,258.62	56.62	0.13	47,579.22	72.22	0.15	52,550.70	72.70	0.14
Natural Gas Consumption (MMCF per day)									
No-Action Alternative	155.84			155.84			155.84		
Proposed Action	156.21	0.37	0.24	156.39	0.55	0.35	156.39	0.55	0.35
Mixed Use Alternative	156.20	0.36	0.23	156.27	0.43	0.28	156.30	0.46	0.29
Industrial Alternative	156.15	0.31	0.20	156.24	0.40	0.26	156.24	0.40	0.26

MGD = million gallons per day
MMCF = million cubic feet
MWH = megawatt hours
ROI = region of influence

Wastewater flows on-station would increase from 0.005 MGD in 1996 to 0.18 MGD by 2016. Connections with the city and county sewer systems would require evaluation once specific development is proposed, since the flow is greater than experienced in the past.

Solid Waste. The Proposed Action would increase solid waste disposal rates in the ROI by 23.17 tons per day by 2016, compared to the No-Action Alternative. The life span of the existing landfills would be reduced by approximately 20 days per year as a result of this 5.18-percent increase.

Solid waste generated on station, included in the amount above, would increase from 0.08 ton per day in 1996 to 21.1 tons per day in 2016.

Energy

Electricity. Reuse-related demands of 98 MWH per day would increase electrical consumption in the ROI to 52,576 MWH per day by 2016. The increase of 0.19 percent over the No-Action Alternative projections would be adequately met by DP&L.

By 2016, the Proposed Action would increase consumption on station from 8.50 MWH per day at closure in 1996 to 85.70 MWH per day in 2016. The existing substation and distribution system could support the proposed reuse. Once specific proposals are identified, improvements can be negotiated with DP&L. Individual facilities would need to be metered and appropriate utility corridors and easements would need to be established.

Natural Gas. The Proposed Action would increase natural gas demand by 0.55 MMCF per day over the No-Action Alternative in the ROI by 2016. Natural gas demands in the ROI are forecast to be 155.84 MMCF per day with the No-Action Alternative by 2016. The increase of 0.35 percent would be adequately met by the supplies of DP&L.

Natural gas use on station would increase from 0.0005 MMCF per day in 1996 to 0.43 MMCF per day by 2016. The existing on-station natural gas distribution would require some changes to accommodate the reuse of the station, including the installation of individual gas meters at most facilities. Appropriate utility corridors and easements would also have to be established.

Mitigation Measures. No mitigation measures would be required.

4.2.4.2 Mixed Use Alternative. Table 4.2-3 presents a summary of ROI utility demands and percentage increases associated with this alternative.

Water Demand. The total average daily water demand in the ROI would increase by 0.32 MGD or 0.41 percent over the No-Action Alternative projections by 2016. With the capacity to treat a total of 192 MGD of

water, the city of Dayton would have adequate capacity to meet the demands associated with this alternative.

On-station potable water use would increase from 0.007 MGD at closure in 1996 to 0.27 MGD by 2016. Reuse of the on-station system may require certain improvements depending on the type and location of development that occurs. Once specific development proposals are identified, improvements can be designed.

Wastewater. This alternative would increase the total projected wastewater flow in the ROI over No-Action Alternative projections by 0.27 MGD, or 0.33 percent, to 83.58 MGD by 2016. The increase in wastewater generation would be adequately met by the city of Dayton and Montgomery County treatment systems, which have a treatment capacity of 105 MGD.

Wastewater flows on station would increase from 0.005 MGD in 1996 to 0.22 MGD by 2016. Connections with the city and county sewer systems would require evaluation once specific development is proposed, since the flow is greater than experienced in the past.

Solid Waste. The Mixed Use Alternative would increase solid waste disposal rates in the ROI by 18.56 tons per day by 2016, compared to the No-Action Alternative. The life span of the existing landfills would be reduced by approximately 15 days per year as a result of this 4.15-percent increase.

Solid waste generated on station, included in the amount above, would increase from 0.08 ton per day in 1996 to 17.0 tons per day in 2016.

Energy

Electricity. Reuse-related demands of 84.36 MWH per day would increase electrical consumption in the ROI to 52,562.36 MWH per day by 2016. The increase of 0.16 percent over No-Action Alternative projections would be adequately met by DP&L.

By 2016, this alternative would increase consumption on station by from 8.50 MWH per day at closure in 1996 to 75.10 MWH per day in 2016. The existing substation and distribution system could support the proposed reuse. Once specific proposals are identified, improvements can be negotiated with DP&L. Individual facilities would need to be metered and appropriate utility corridors and easements would need to be established.

Natural Gas. The Mixed Use Alternative would increase natural gas demand by 0.46 MMCF per day over the No-Action Alternative in the ROI by 2016. Natural gas demands in the ROI are forecast to equal 155.84 MMCF per day by 2016 under No-Action Alternative projections. The increase of 0.29 percent would be adequately met by the supplies of DP&L.

Natural gas use on station would increase from 0.0005 MMCF per day in 1996 to 0.36 MMCF per day by 2016. The existing on-station natural gas distribution would require some changes to accommodate the reuse of the station, including the installation of individual gas meters at most facilities. Appropriate utility corridors and easements would also have to be established.

Mitigation Measures. No mitigation measures would be required.

4.2.4.3 Industrial Alternative. Table 4.2-3 presents a summary of ROI utility demands and percentage increases associated with this alternative.

Water Demand. The total average daily water demand in the ROI would increase by 0.22 MGD or 0.28 percent over the No-Action Alternative projections by 2016. With the capacity to treat a total of 192 MGD of water, the city of Dayton would have adequate capacity to meet the demands associated with this alternative.

On-station potable water use would increase from 0.007 MGD at closure in 1996 to 0.17 MGD by 2016. Reuse of the on-station system may require certain improvements depending on the type and location of development that occurs. Once specific development proposals are identified, improvements can be designed.

Wastewater. This alternative would increase the total projected wastewater flow in the ROI over No-Action Alternative projections by 0.18 MGD, or 0.21 percent, to 83.49 MGD by 2016. The increase in wastewater generation would be adequately met by the city of Dayton and the Montgomery County treatment systems, which have a treatment capacity of 105 MGD.

Wastewater flows on station would increase from 0.005 MGD in 1996 to 0.13 MGD by 2016. Connections with the city and county sewer systems would require evaluation once specific development is proposed since the flow is greater than experienced in the past.

Solid Waste. The Industrial Alternative would increase solid waste disposal rates in the ROI by 15.88 tons per day by 2016, compared to the No-Action Alternative. The life span of the existing landfills would be reduced by approximately 13 days per year as a result of this 3.55-percent increase.

Solid waste generated on station, included in the amount above, would increase from 0.08 ton per day in 1996 to 14.50 tons per day in 2016.

Energy

<u>Electricity</u>. Reuse-related demands of 72.70 MWH per day would increase electrical consumption in the ROI to 52,550.70 MWH per day by 2016. The

increase of 0.14 percent over No-Action Alternative projections would be adequately met by DP&L.

By 2016, this alternative would increase consumption on station from 8.50 MWH per day at closure in 1996 to 64.70 MWH per day in 2016. The existing substation and distribution system could support the proposed reuse. Once specific proposals are identified, improvements can be negotiated with DP&L. Individual facilities would need to be metered and appropriate utility corridors and easements would need to be established.

Natural Gas. The Industrial Alternative would increase natural gas demand by 0.40 MMCF per day over the No-Action Alternative in the ROI by 2016. Natural gas demands in the ROI are forecast to equal 155.84 MMCF per day by 2016 under No-Action Alternative projections. The increase of 0.26 percent would be adequately met by the supplies of DP&L.

Natural gas use on station would increase from 0.0005 MMCF per day in 1996 to 0.32 MMCF per day by 2016. The existing on-station natural gas distribution would require some changes to accommodate the reuse of the station, including the installation of individual gas meters at most facilities. Appropriate utility corridors and easements would also have to be established.

Mitigation Measures. No mitigation measures would be required.

4.2.4.4 No-Action Alternative. Under the No-Action Alternative, utility use would be minimal in comparison to the Proposed Action and other reuse alternatives. The disuse of a portion of the on-station utility systems, however, could result in their degradation over the long term. The following ROI utility use is forecast using per-capita factors developed from data provided by the utility providers in the study area and would occur without reuse of the station:

- Water consumption in the ROI is projected to increase from 75.60 MGD in 1996 to 79.10 MGD in 2016.

- Wastewater generation in the ROI is projected to increase from 79.31 MGD in 1996 to 83.31 MGD in 2016.

- Solid waste disposal in Montgomery County is expected to increase from 304.50 tons per day in 1996 to 447.04 tons per day in 2016.

- Electricity consumption in the ROI is projected to increase from 42,045 MWH per day in 1996 to 52,478 MWH per day in 2016.

- Natural gas consumption is expected to remain stable at 155.84 MMCF per day from 1996 to 2016.

4.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

This section addresses the potential impacts of existing contaminated sites on the various reuse options, and the potential for environmental impacts caused by hazardous materials/waste management practices associated with the reuse options. Hazardous materials/wastes, IRP sites, storage tanks, asbestos, pesticides, PCBs, radon, medical/biohazardous wastes, ordnance, and lead-based paint will be discussed within this section.

The U.S. Air Force and DLA are committed to the remediation, as necessary, of all contamination at Gentile AFS due to past DOD activities. The OL will remain after station closure to coordinate the completion of remediation activities. Delays or restrictions in property disposal and reuse may occur due to the extent of contamination, and the results of both the risk assessment and remedial designs determined for contaminated sites. A few examples of conditions that might result in land use restrictions would include the capping of landfills and the constraints from methane generation and cap integrity, as well as the location of long-term monitoring wells. These conditions would have to be considered in the layout of future development. Options to recipients, for example, would include: creation of parks, greenbelts, or open spaces over these areas.

Regulatory standards and guidelines have been applied in determining the impacts caused by hazardous materials/waste. Generally, the following criteria were used to identify potential impacts:

- Accidental release of friable asbestos or lead-based paint during the demolition or modification of a structure
- Generation of 100 kg (or more) of hazardous waste or 1 kg of an acute hazardous waste (OAC 3745-51-05) in a calendar month, resulting in increased regulatory requirements
- New operational requirements or service for all UST and tank systems
- Any spill or release of a reportable quantity of a hazardous material
- Manufacturing of any compound that requires notifying the pertinent regulatory agency
- Exposure to the environment or public of any hazardous material through release or disposal practices.

4.3.1 Proposed Action

4.3.1.1 Hazardous Materials Management. The hazardous materials likely to be utilized for activities occupying the proposed land use zones are identified in Table 4.3-1. The quantity of hazardous materials utilized under

Table 4.3-1. Hazardous Material Usage by Land Use - Proposed Action

Land Use Zones	Operation Process	Hazardous Materials
Industrial	Activities associated with light industry, manufacturing, and warehousing	Fuels, POL, corrosives, ignitables, pesticides, paints, thinners, heavy metals, solvents, aerosols, hydraulic fluids, plating chemicals, de-icing chemicals
Commercial	Activities associated with offices, retail service industries, and restaurants	Paints, thinners, cleaners, pesticides, aerosols, household products, de-icing chemicals
Public facilities/ recreation	Maintenance of recreational facilities including park areas, playgrounds, softball fields, basketball courts, and other outdoor recreation facilities, and activities associated with office, administration, and light industrial production	Pesticides, paints, thinners, POL, fuels, cleaners, fertilizers, household products, de-icing chemicals
Federal	Activities associated with office use administration	Cleaners, household products, paints, thinners, pesticides, de-icing chemicals

POL = petroleum, oil, and lubricants

the Proposed Action would increase over the baseline conditions at closure due to an increase in industrial and commercial land uses and, to a lesser degree, public facilities/recreation, and federal land uses. The specific chemical compositions and exact use rates are not known.

If the Proposed Action were implemented, each separate organization would be responsible for the management of hazardous materials according to applicable regulations. Additionally, each organization would have to comply with the EPCRA by notifying the Local Emergency Planning Committee of the use of extremely hazardous materials or the use of hazardous materials over threshold limits. Management of hazardous materials would be in accordance with all applicable regulations, and no unacceptable impacts would result.

4.3.1.2 Hazardous Waste Management. Hazardous wastes under the Proposed Action would be generated from the hazardous materials and the processes that utilize these materials (see Table 4.3-1). Generated wastes would include fuels, petroleum, oil, and lubricants (POL), solvents, paints, thinners, and other industrial wastes, depending upon reuse.

Activities associated with the Proposed Action would lead to an increase in the amount of hazardous waste generated compared to the closure baseline. This increase would largely occur from the industrial and commercial land uses. However, hazardous wastes would not create any unacceptable impacts if managed in accordance with all applicable regulations. In addition, each owner/operator would be required to obtain the appropriate permits for generation and disposal of hazardous waste.

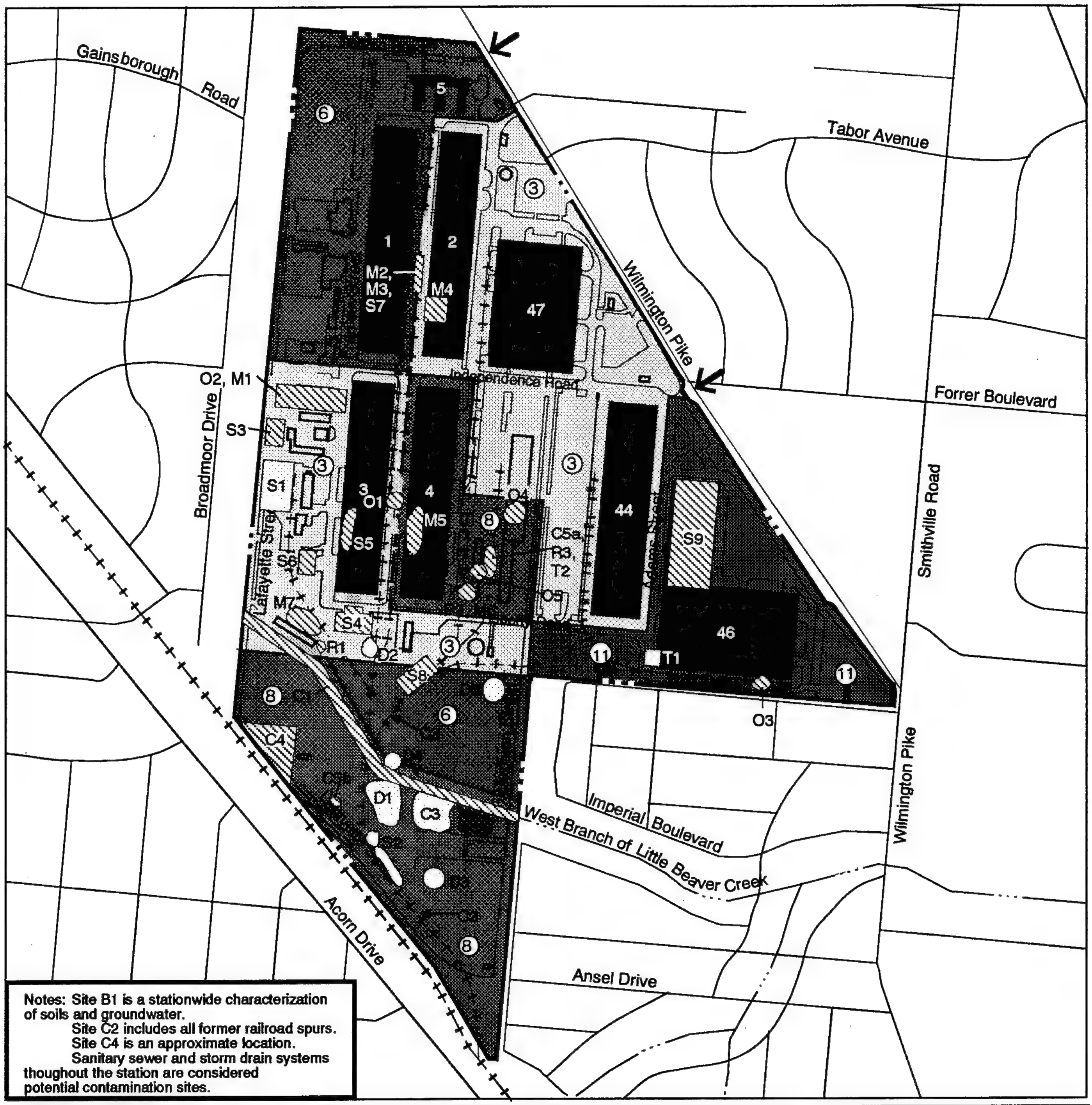
Upon disposal of parcels, hazardous wastes would fall under the control of each property recipient. The presence of numerous independent owners/operators on the station would change the regulatory requirements. Once the responsibilities of hazardous waste management are allocated to the individual organizations, proficiency with handling and spill responses for those materials is required by OSHA regulations (29 CFR). Mutual aid agreements with surrounding communities may require additional scrutiny and training of emergency staff.

4.3.1.3 Installation Restoration Program. The U.S. Air Force and DLA are committed to continue IRP activities at Gentile AFS under the DERP. Coordination and management of these activities will be the responsibility of the OL.

The type of development that is appropriate for property adjacent to or over an IRP site may be limited by the risk to human health and the environment posed by contaminants at the site. For example, most types of development over an IRP landfill are generally not appropriate. The risk posed by IRP sites is measured by a risk assessment that analyzes the types of substances present at a site and the potential means by which the public and the environment may be exposed to them. The RD, or blueprint for remediating the IRP site, considers the results of the risk assessment and the geographical extent of the contamination.

Disposal by deed may be delayed and reuse of some Gentile AFS properties may be restricted by the extent and type of contamination at IRP sites, and by current and future IRP remediation activities (Figure 4.3-1). Based on the results of IRP investigations, the Air Force may, where appropriate, place limits on land reuse through deed restrictions on conveyances and use restrictions on leases. The Air Force will, as necessary, retain right of access to other properties to inspect monitoring wells or conduct other remedial activities. The IRP sites within each land use area for the Proposed Action are discussed below and summarized in Table 4.3-2.

Industrial. Delays in property disposal by deed may occur as a result of ongoing investigations and possible remediation of the Coal Storage Area (site S1), Disposal Area No. 2 (site D2), and 18 potential contamination sites including the sanitary sewer system, the storm drain system, the stationwide soils and groundwater characterization (site B1), and the former railroad



EXPLANATION

1 Airfield*	6 Commercial	11 Federal
2 Aviation Support*	7 Residential*	Station Boundary
3 Industrial	8 Public Facilities/ Recreation	Retained Facility
4 Institutional (Medical)*	9 Agriculture*	Demolished Facility
5 Institutional (Educational)*	10 Vacant Land*	Potential Contamination Site
		IRP Site
		Access Point

0 175 350 700 Feet

*Standard land use designation not applicable to this figure.

Installation Restoration Program and Potential Contamination Sites - Proposed Action

Figure 4.3-1

Table 4.3-2. **IRP Sites and Potential Contamination Sites within Land Use Areas - Proposed Action**

Proposed Land Use	IRP Sites	Potential Contamination Sites
Industrial	D2, S1	B1, C2, M1, M2, M3, M4, M7, O1, O2, R1, S3, S4, S5, S6, S7, S8, sanitary sewer system, storm drain system
Commercial	D4, D5	B1, C2, M2, M3, S7, S8, sanitary sewer system, storm drain system
Public facilities/recreation	C3, D1, D3, D4, S2	B1, C1, C2, C4, C5a, C5b, M5, M6, O1, O4, O5, R2, R3, T2, sanitary sewer system, storm drain system
Federal	T1	B1, C2, O3, S9, sanitary sewer system, storm drain system

IRP = Installation Restoration Program

spurs (site C2). Land use restrictions may also result from the installation of long-term monitoring wells.

Commercial. Land use restriction and delays in property transfer by deed may result from the ongoing investigation and any resulting remediation at the Low-Level Radioactive Waste Disposal Sites (sites D4 and D5) and potential contamination site S8, located in the southern commercial land use parcel. Similar impacts could occur at potential contamination sites M2, M3, and S7 in the northern commercial parcel, as well as, sites B1 and C2, and the sanitary and storm drain systems associated with both land use parcels.

Public Facilities/Recreation. Two public facilities/recreation parcels exist under the Proposed Action. Delays in property disposal by deed and land use restriction may result from ongoing investigations and possible remediation activities associated with five IRP sites, and six potential contamination sites in the southern parcel. Eleven potential contamination sites may delay property disposal by deed or result in land use restrictions to the northern parcel. Sites B1 (Background Characterization of Soils and Groundwater) and C2 (Former Rail Spurs), and the sanitary sewer and storm drain systems are located within both the northern and southern land use parcels.

Federal. Ongoing IRP investigations and any resulting remediation activities could result in land use restrictions and redevelopment delays at the Acid Neutralization Basin (site T1), and at potential contamination sites B1 (Background Characterization of Soils and Groundwater), C2 (Former Rail Spurs), O3 (oil/water separator at Building 46), S9 (Cobalt Storage in Building 45), and the sanitary sewer and storm drain systems.

Determination of future station land uses and their arrangement will, to a certain extent, be dependent upon a regulatory review of the remedial design of the IRP sites. This review will identify current monitoring well locations and future land use limitations as a result of their presence. The RAB will review and provide comments on proposed remedial actions, and act as the liaison between the local community, the Air Force, and the DLA during environmental restoration.

4.3.1.4 Storage Tanks. Industrial/manufacturing and commercial land use activities, as well as facility maintenance operations conducted as part of the Proposed Action, would require both USTs and aboveground storage tanks. Reused and new aboveground storage tanks and any new USTs that would be required by the new owner/operators would be subject to all applicable federal, state, and local regulations, as discussed in Section 3.3.4. These regulations include acceptable leak detection methodologies, spill and overfill protection, cathodic protection, secondary containment for the tank systems including the piping, and liability insurance. The treatment of any associated contamination from leaking USTs must comply with the regulations set by the Ohio Bureau of Underground Storage Tanks. Aboveground storage tanks not used to support reuse activities would be emptied, purged of fumes to preclude fire hazards, and secured. Section 79.116 of the Uniform Fire Code recommends that aboveground storage tanks that have been out of service for at least 1 year be removed from the property unless a waiver is granted from the state. All existing oil/water separators will be pumped out and removed and any contamination associated with the separators remediated. Installation of any new oil/water separators would be the responsibility of the reuser and would be operated in accordance with all applicable regulations.

4.3.1.5 Asbestos. Renovation and demolition of existing structures with ACM has been proposed under this alternative. Such activities would be subject to all applicable federal, state, and local regulations to minimize the potential risks to human health and the environment. Consequently, no impacts would occur as a result of implementing the Proposed Action. Property recipients would be advised, to the extent known, of the types, condition, and amount of ACM within any real property conveyed.

4.3.1.6 Pesticides. Pesticide usage associated with the Proposed Action would increase from amounts used under closure baseline conditions, as a result of the increase in industrial, commercial, public facilities/recreation, and federal land uses. Pesticides would continue to be used. Management practices would be subject to FIFRA and state regulations; therefore, no unacceptable impacts are anticipated.

4.3.1.7 Polychlorinated Biphenyls. All federally and state-regulated PCB equipment and PCB-contaminated equipment will be removed and properly disposed of prior to station closure; therefore, these materials would not create any impacts.

4.3.1.8 Radon. The radon survey conducted at Gentile AFS only identified the Commanders Residence as having a radon level of 4.8 pCi/l; a sub-slab ventilation system was therefore installed to reduce radon concentrations. However, since this building is scheduled for demolition under the Proposed Action, and since no radon exposure guidelines or action levels have been established by federal or state regulatory agencies for buildings other than schools and residences, radon would not create any impacts under the Proposed Action.

4.3.1.9 Medical/Biohazardous Waste. No medical/biohazardous wastes are expected to be generated under the Proposed Action; therefore, no impacts are anticipated.

4.3.1.10 Ordnance. The small arms firing range property will be cleared of spent bullets prior to property disposal. Should additional soil contamination be identified, property disposal and reuse may be delayed by subsequent investigations or remediation.

4.3.1.11 Lead-Based Paint. The Proposed Action would involve the occupation, demolition, and renovation of existing structures that may contain lead-based paints. Occupants of facilities constructed prior to or during 1978 would be advised of this condition if no survey of these facilities has been conducted. Results of lead-based paint surveys conducted at Gentile AFS would be disclosed to new occupants and would be abated as necessary in accordance with Air Force policy. Demolition or renovation activities would be subject to all applicable federal, state, and local regulations to minimize potential risks to human health and the environment.

4.3.1.12 Mitigation Measures. Because users would be required to comply with all applicable federal, state, and local regulations regarding use, storage, and handling of hazardous substances, there would be no substantial impacts to the environment, and no mitigation measures would be required. Additionally, the IRP is an ongoing process that will continue regardless of station reuse, with remedial measures being implemented as part of the ROD for remediation of the IRP site(s). The ROD is a public document that explains which cleanup alternative(s) will be used based on information and technical analysis generated during the RI/FS. The ROD also takes into consideration public comment and community concerns.

The following measures are provided as a way of further reducing the potential for a release of hazardous materials and hazardous waste into the environment, and for the implementation of reuse on or near IRP sites.

A cooperative planning body for hazardous materials and waste management could be established with the support of the new individual reuse operators on the station. Establishment of such a body could reduce the costs of environmental compliance training, health and safety training, and waste management; and could increase recycling, minimize waste, and assist in

mutual aid spill responses. Implementation of such a planning body would be the responsibility of all property recipients (i.e., individual owners/operators).

The scheduling of collection days for household products such as paints, pesticides, and cleaners could mitigate publicly owned treatment works and storm water discharge concerns. Articles in the local papers and classes offered by community educational groups could increase public awareness of recycling, appropriate use of pesticides, waste minimization, and waste disposal. Collection of household products could provide a proper means of disposal of collected items and reduce the amount of hazardous substances released into the environment by placement in domestic landfills, through storm water systems, or by other illicit means. Implementation of disposal of the substances as regulated hazardous waste would be the responsibility of the state or a local jurisdiction.

All of the IRP sites may not need to be remediated; however, all of them must be addressed and properly closed out. A proactive land use planning approach to reuse would require coordination and enforcement among the OL, RAB, and redevelopment authorities in order to reduce potential delays in reuse or redevelopment. Land use impacts could be mitigated by implementing a phased construction schedule. Such an approach would allow for station redevelopment to begin in areas without IRP sites; areas with IRP sites would be developed in a later project phase. Phased redevelopment would allow for IRP site remediation with minimal impacts to redevelopment. Redevelopment activities could be coordinated between the OL and redevelopment authorities in order to identify existing and future locations of groundwater monitoring wells. This would allow for establishing access easements, as well as preventing redevelopment conflicts with the existing monitoring wells. Additional mitigation measures implemented during construction activities could further reduce the potential of impacts to nearby IRP sites. For example, proper organization coordination could eliminate the possible degradation of a landfill cap and possible transport (spread) of contaminated soils from excessive surface runoff as a result of construction activities.

Active coordination between the OL and the appropriate jurisdiction's planning department result in better and more timely land use planning. For example, the OL could identify the presence of IRP sites and explain their characteristics that could limit certain land uses. Determining future land uses would be, to a certain extent, dependent upon the level of remediation conducted at individual IRP sites. Areas of restricted land use at IRP sites could be incorporated into the redevelopment plans as greenbelts, parks, or landscaped open spaces.

The presence of lead-based paint will be disclosed to recipients of (1) facilities known to contain lead-based paint, and (2) facilities constructed prior to or during 1978 and not previously surveyed. Coordination of lead-

based paint abatement in conjunction with construction or renovation activities could further minimize the risk to human health and the environment, therefore further reducing potential impacts.

Coordination of ACM abatement or management in conjunction with construction or renovation activities could reduce the number of potential adverse exposures to asbestos. The management of ACM abatement in property disposed by deed would be the responsibility of the property recipient.

4.3.2 Mixed Use Alternative

4.3.2.1 Hazardous Materials Management. The hazardous materials likely to be used for activities occupying the proposed land use zones are identified in Table 4.3-3 and would be similar to those utilized under the Proposed Action. The quantity of hazardous materials utilized under the Mixed Use Alternative would increase over the baseline conditions at closure due to an increase in industrial and commercial land uses and, to a lesser degree, residential, public facilities/recreation, and federal land uses. The specific chemical compositions and exact use rates are not known; however, management of hazardous materials under all applicable regulations, as discussed under the Proposed Action, would not result in any unacceptable impacts.

4.3.2.2 Hazardous Waste Management. Hazardous wastes under the Mixed Use Alternative would be generated from the hazardous materials and processes that utilize these materials (see Table 4.3-3). Generated wastes would include fuels, POL, solvents, paints, thinners, and other industrial wastes depending on reuse. Under the Mixed Use Alternative, hazardous waste management control, activities, and regulatory requirements from these generated wastes would be similar to those discussed under the Proposed Action.

Activities associated with the Mixed Use Alternative would lead to an increase in the amount of hazardous waste generated when compared to the closure baseline. This increase would largely occur from the industrial and commercial land uses and, to a lesser extent, residential, public facilities/ recreation, and possibly federal land uses. The amounts of hazardous waste generated under the Mixed Use Alternative is anticipated to be similar to those generated under the Proposed Action. Management of wastes utilizing all applicable regulations would preclude any unacceptable impacts under this alternative. In addition, each owner/operator would be required to obtain the appropriate permits for generation and disposal of hazardous waste.

4.3.2.3 Installation Restoration Program. The IRP sites within each land use area for the Mixed Use Alternative are identified in Figure 4.3-2 and summarized in Table 4.3-4. The continued IRP activities and the type of

Table 4.3-3. Hazardous Material Usage by Land Use - Mixed Use Alternative

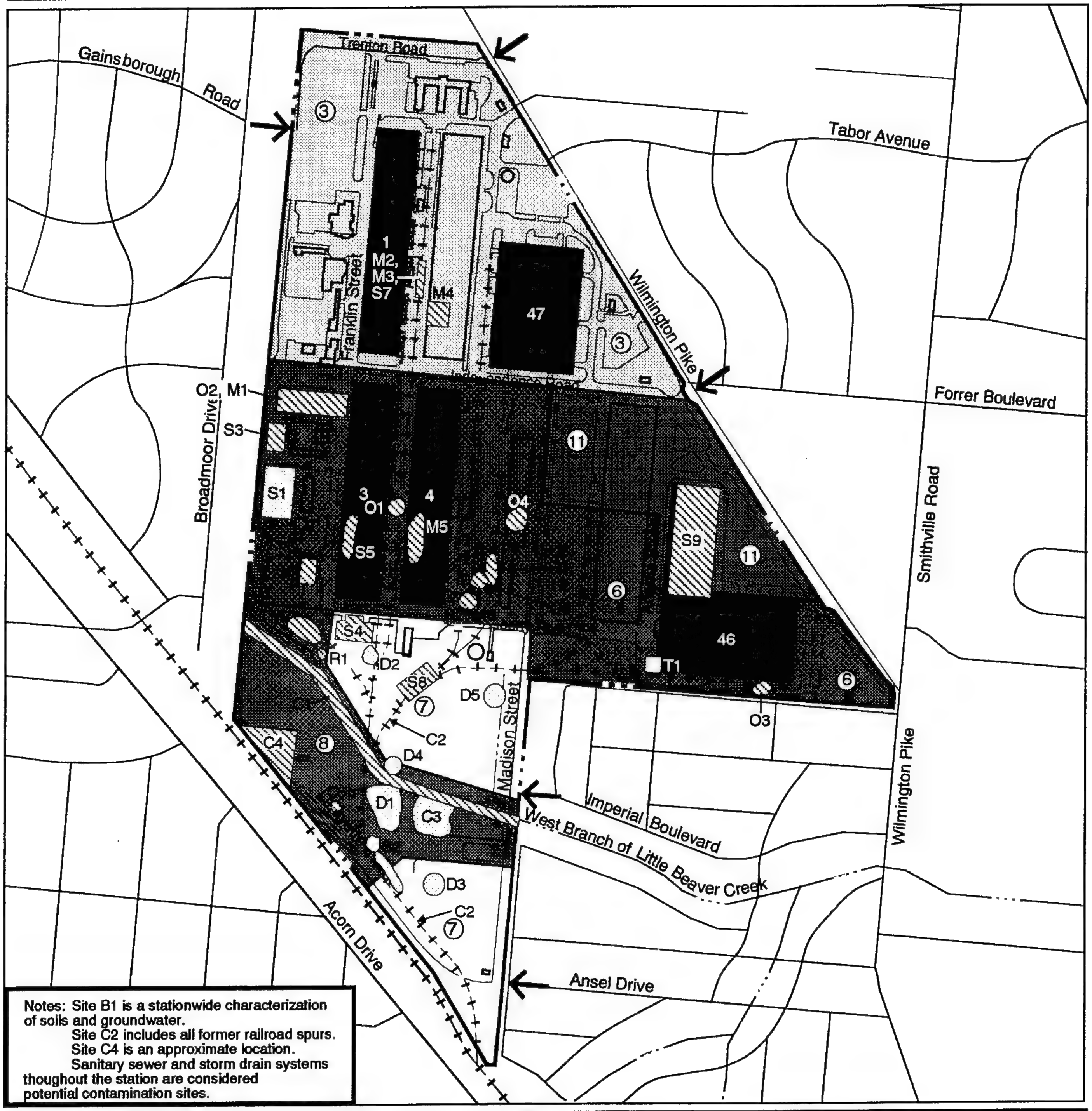
Land Use Zones	Operation Process	Hazardous Materials
Industrial	Activities associated with light manufacturing and warehousing	POL, fuels, ignitables, solvents, heavy metals, corrosives, hydraulic fluids, aerosols, plating chemicals, paints, thinners, pesticides, de-icing chemicals
Commercial	Activities associated with offices, administration, retail service industries, and restaurants	Pesticides, cleaners, household products, paints, thinners, aerosols, de-icing chemicals
Residential	Utilization of multifamily and single-family housing units and landscaping	Fuels, POL, pesticides, fertilizers, paints, thinners, household products, cleaners, aerosols, de-icing chemicals
Public facilities/ recreation	Maintenance of recreational facilities including park areas, playgrounds, basketball courts, softball fields, and other outdoor recreation facilities	Pesticides, fertilizers, paints, thinners, fuels, POL, cleaners, household products, de-icing chemicals
Federal	Activities associated with office use and administration	Household products, cleaners, paints, thinners, pesticides, de-icing chemicals

POL = petroleum, oil, and lubricants

appropriate development for property adjacent to IRP sites would be similar to those discussed under the Proposed Action.

Industrial. Ongoing investigations and any resulting remediation of 8 potential contamination sites may result in delays in property disposal by deed as well as land use restrictions. These sites include B1 and C2; the Transformer Failure Site, the Waste Oil Feed Area, and Chemical Storage Area at Building 81 (sites M2, M3, and S7); the Compressor Room at Building 2 (site M4); and the sanitary sewer and storm drain systems.

Commercial. Delays in property transfer by deed may result from the ongoing investigation and any resulting remediation at the Coal Storage Area (IRP site S1), located in the western commercial land use parcel; and the Acid Neutralization Basin at Building 46 (IRP site T1), located in the eastern commercial parcel. Similar impacts could occur to potential contamination sites B1, C2, C5a, M1, M5, M6, 01, 02, 03, 04, 05, R2, R3, S3, S5, S6, T2, and the sanitary sewer and storm water drain systems. Land use restrictions may also result from the installation of long-term monitoring wells.



EXPLANATION

- ① Airfield*
- ② Aviation Support*
- ③ Industrial
- ④ Institutional (Medical)*
- ⑤ Institutional (Educational)*
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public Facilities/ Recreation
- ⑨ Agriculture*
- ⑩ Vacant Land*
- ⑪ Federal
- Station Boundary
- Retained Facility
- Demolished Facility
- Potential Contamination Site
- IRP Site
- Former Railroad Spurs
- Access Point

0 175 350 700 Feet

* Standard land use designation not applicable to this figure.

Installation Restoration Program and Potential Contamination Sites - Mixed Use Alternative

Figure 4.3-2

Table 4.3-4. IRP Sites and Potential Contamination Sites within Land Use Areas - Mixed Use Alternative

Proposed Land Use	IRP Sites	Potential Contamination Sites
Industrial	None	B1, C2, M2, M3, M4, S7, sanitary sewer system, storm drain system
Commercial	S1, T1	B1, C2, C5a, M1, M5, M6, O1, O2, O3, O4, O5, R2, R3, S3, S5, S6, T2, sanitary sewer system, storm drain system
Residential	D3, D2, D4, D5, S2	B1, C2, S4, S8, sanitary sewer system, storm drain system
Public facilities/recreation	C3, D1, D4, S2	B1, C1, C2, C4, C5b, M7, R1, sanitary sewer system, storm drain system
Federal	None	B1, C2, S9, sanitary sewer system, storm drain system

IRP = Installation Restoration Program

Residential. Delays in property disposal by deed and land use restriction may occur as a result of ongoing IRP investigations and any resulting remediation activities at five IRP and six potential contamination sites located within the residential land use parcels. The Old Salvage Yard (IRP site D3) and the Reserve Coal Storage Area (IRP site S2) are located in the southern residential parcel. Disposal Area No. 2 (IRP site D2), and Low-Level Radioactive Disposal Sites No. 1 and No. 2 (IRP sites D4 and D5) are located in the central residential parcel. Potential contamination sites associated with the southern parcel include sites B1, C2, and the stationwide storm drain and sanitary sewer systems. The Herbicide Storage Site (site S4), the PCB Storage Area (site S8), as well as site C2, and the sanitary sewer and storm drain systems are located in the central residential parcel.

Public Facilities/Recreation. Delays in property disposal by deed and land use restriction may result from ongoing investigations, and possible remediation activities associated with 4 IRP sites (IRP sites C3, D1, D4, and S2) and potential contamination sites B1, C1, C2, C4, C5b, M7, and the sanitary sewer and storm drain systems.

Federal. Ongoing investigations and any resulting remediation activities could result in land use restrictions and redevelopment delays at potential contamination sites B1, C2, S9 (the Cobalt Storage at Building 46), and the sanitary sewer and storm drain systems.

4.3.2.4 Storage Tanks. Industrial, commercial, and other land use activities, as well as facility and grounds maintenance operations associated with the Mixed Use Alternative, would require both USTs and aboveground

storage tanks. New and existing aboveground storage tanks and any new USTs required by new owners/operators would be subject to the same federal, state, and local regulations discussed under the Proposed Action. Existing oil/water separators would be removed and any associated contamination remediated. Any new oil/water separators would be the responsibility of the reuser and would be managed in accordance with applicable regulations and, therefore, would cause no impacts.

Aboveground storage tanks not used to support reuse activities would be emptied, purged of fumes to preclude fire hazards, and secured. Under this alternative, closure of USTs, aboveground storage tanks, and oil/water separators would be in accordance with applicable regulations similar to those discussed under the Proposed Action.

4.3.2.5 Asbestos. Renovation and demolition of existing structures with ACM has been proposed under this alternative. The square footage of facilities identified for demolition under the Mixed Use Alternative is considerably greater than the amount identified under the Proposed Action; therefore, the amount of ACM abatement would be greater than that generated under the Proposed Action. Such activities would be subject to all applicable federal, state, and local regulations to minimize the potential risks to human health and the environment. Consequently, no impacts would occur as a result of these activities. Property recipients would be advised, to the extent known, of the types, condition, and amount of ACM within any real property conveyed.

4.3.2.6 Pesticides. Pesticide usage associated with the Mixed Use Alternative would increase from amounts used under closure baseline conditions, as a result of the increase in industrial, commercial, residential, and public facilities/recreation land uses and, to a lesser degree, federal. Pesticide usage could also increase over the amount used under the Proposed Action as a result of increased residential land use. Pesticides would continue to be used. Management practices would be subject to FIFRA and state regulations; therefore, no unacceptable impacts are anticipated.

4.3.2.7 Polychlorinated Biphenyls. All federally and state-regulated PCB equipment and PCB-contaminated equipment will be removed and properly disposed of prior to station closure; therefore, these materials would not create any impacts to reuse under this alternative.

4.3.2.8 Radon. The Commanders Residence, the only building with a radon level above 4 pCi/l (4.8 pCi/l), is scheduled for demolition under this alternative and since no radon exposure guidelines or action levels have been established by federal or state regulatory agencies for buildings other than schools and residences, radon would not create any impacts to reuse.

4.3.2.9 Medical/Biohazardous Waste. No medical/biohazardous wastes are expected to be generated under this alternative; therefore, no impacts are anticipated.

4.3.2.10 Ordnance. Redevelopment of the small arms firing range property may be delayed in order to remove spent bullets and, if necessary, remediate contaminated soils. Management of this property would be similar to that identified under the Proposed Action.

4.3.2.11 Lead-Based Paint. Management of lead-based paint under this alternative would be similar to that identified under the Proposed Action.

4.3.2.12 Mitigation Measures. Mitigation measures for this alternative would be similar to those identified under the Proposed Action.

4.3.3 Industrial Alternative

4.3.3.1 Hazardous Materials Management. The types of hazardous materials used under the Industrial Alternative are provided in Table 4.3-5, and would be similar to those used under the Proposed Action and Mixed Use Alternative. The quantities used under this alternative would increase over the amounts used at closure due to the establishment of industrial, and commercial land uses and, to a lesser extent, residential, public facilities/recreation, and federal land uses. Quantities of hazardous materials utilized under this alternative are anticipated to be similar to the amounts used for the Proposed Action and Mixed Use Alternative, as a result of the establishment of similar light industrial and commercial activities reusing Gentile AFS. Management of these materials under all applicable regulations, as discussed under the Proposed Action, would not create any unacceptable impacts.

4.3.3.2 Hazardous Waste Management. Under the Industrial Alternative, hazardous wastes would be generated from the hazardous materials and processes used (see Table 4.3-5), and would include waste POL, fuels, solvents, paints, thinners, and other industrial wastes dependent upon reuse activities. Under the Industrial Alternative, hazardous waste management control, activities, and regulatory requirements from these generated wastes would be similar to those discussed under the Proposed Action.

Activities associated with the Industrial Alternative would lead to an increase in the amount of hazardous waste generated when compared to the closure baseline. Reuse activities associated with this alternative are anticipated to generate about the same amount of hazardous wastes as generated under the Proposed Action and Mixed Use Alternative, as a result of the establishment of similar light industrial and commercial activities during the reuse of Gentile AFS. The hazardous wastes generated under this alternative would largely be from industrial and commercial uses and to a much lesser degree, residential, public facilities/recreation, and possibly federal land uses.

Table 4.3-5. Hazardous Material Usage by Land Use - Industrial Alternative

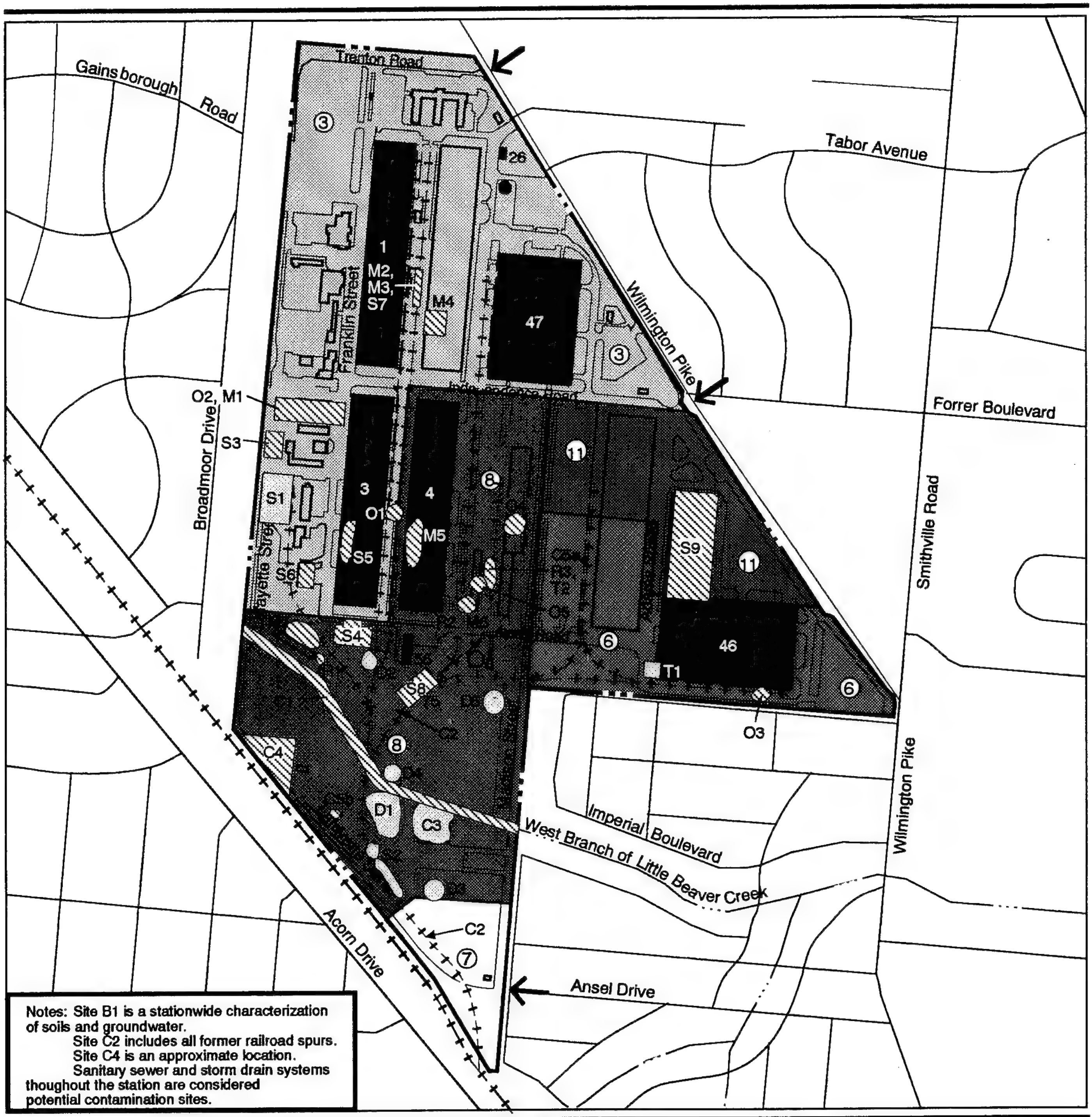
Land Use	Operation Process	Hazardous Materials
Industrial	Activities associated with light industry, warehousing, and outdoor storage	POL, fuels, ignitables, solvents, heavy metals, corrosives, hydraulic fluids, aerosols, plating chemicals, paints, thinners, pesticides, de-icing chemicals
Commercial	Activities associated with offices, retail service industry, and restaurants	Household products, cleaners, paints, thinners, pesticides, aerosols, de-icing chemicals
Residential	Utilization of single-family housing units and landscaping	Pesticides, fertilizers, paints, thinners, household products, cleaners, fuels, POL, aerosols, de-icing chemicals
Public facilities/ recreation	Maintenance of recreational facilities including park areas, playgrounds, softball fields, basketball courts, and other outdoor recreation facilities, and activities associated with office, administration and light industrial production	Pesticides, fertilizers, paints, thinners, cleaners, POL, fuels, household products, de-icing chemicals
Federal	Activities associated with office use and administration	Cleaners, household products, paints, thinners, pesticides, de-icing chemicals

POL = petroleum, oil, and lubricants

Management of wastes utilizing all applicable regulations would preclude any unacceptable impacts under this alternative. In addition, each owner/operator would be required to obtain the appropriate permits for generation and disposal of hazardous waste.

4.3.3.3 Installation Restoration Program. The IRP sites located within each land use area for the Industrial Alternative are identified in Figure 4.3-3 and summarized in Table 4.3-6. The continued IRP activities and the type of appropriate development for property adjacent to IRP sites would be similar to those discussed under the Proposed Action.

Industrial. Impacts to industrial land use from IRP and potential contamination site investigations and possible remediation are similar to those discussed under the Mixed Use Alternative. Delays in property disposal may occur as a result of ongoing IRP investigations and resulting remediation activities to the Coal Storage Area (IRP site S1) and to 14 potential contamination sites. The potential contamination sites include B1,



EXPLANATION

1 Airfield*	6 Commercial	11 Federal
2 Aviation Support*	7 Residential	Station Boundary
3 Industrial	8 Public Facilities/ Recreation	Retained Facility
4 Institutional (Medical)*	9 Agriculture*	Demolished Facility
5 Institutional (Educational)*	10 Vacant Land*	Potential Contamination Site
		IRP Site
		Former Railroad Spurs
		Access Point

0 175 350 700 Feet

* Standard land use designation not applicable to this figure.

Installation Restoration Program and Potential Contamination Sites - Industrial Alternative

Figure 4.3-3

Table 4.3-6. **IRP Sites and Potential Contamination Sites within Land Use Areas - Industrial Alternative**

Proposed Land Use	IRP Sites	Potential Contamination Sites
Industrial	S1	B1, C2, M1, M2, M3, M4, O1, O2, S3, S5, S6, S7, sanitary sewer system, storm drain system
Commercial	T1	B1, C2, O3, sanitary sewer system, storm drain system
Residential	None	B1, C2, storm drain system
Public facilities/recreation	C3, D1, D2, D3, D4, D5, S2	B1, C1, C2, C4, C5a, C5b, M5, M6, M7, O1, O4, O5, R1, R2, R3, S4, S8, T2, sanitary sewer system, storm drain system
Federal	None	B1, C2, S9, sanitary sewer system, storm drain system

IRP = Installation Restoration Program

C2, M1, M2, M3, M4, O1, O2, S3, S5, S7 and the sanitary sewer and storm drain systems. Land use restrictions may also result from the installation of long-term monitoring wells.

Commercial. Delays in property transfer by deed may result from the ongoing investigation and any resulting remediation at the Acid Neutralization Basin (IRP site T1) located at Building 46. Similar impacts could occur at potential contamination sites B1, C2, O3, and the sanitary sewer and storm drain systems.

Residential. Redevelopment of the residential land use parcel located in the southern portion of the station may be delayed as a result of ongoing investigations, and any remediation activities conducted at potential contamination sites B1, C2, and the storm drain system.

Public Facilities/Recreation. Ongoing investigations and any resulting remediation of 7 IRP sites and 20 potential contamination sites may result in delays in property disposal as well as land use restrictions (see Table 4.3-6).

Federal. Impacts from IRP and potential contamination sites are similar to those discussed under the Mixed Use Alternative.

4.3.3.4 Storage Tanks. Industrial, warehousing, and commercial and other land use operations conducted under the Industrial Alternative would require both USTs and aboveground storage tanks. New and existing aboveground storage tanks and any new USTs required by the new owners/operators would be subject to the same federal, state, and local regulations discussed

under the Proposed Action. Existing oil/water separators would be removed and any associated contamination remediated. Any new oil/water separators would be the responsibility of the reuser and would be managed in accordance with applicable regulations.

Aboveground storage tanks not utilized to support reuse activities would be emptied and purged of fumes to preclude fire hazards. Under this alternative, closure of USTs, aboveground storage tanks, and oil/water separators would be in accordance with applicable regulations similar to those discussed under the Proposed Action.

4.3.3.5 **Asbestos.** Renovation and demolition of existing structures that contain ACM have been proposed under this alternative. The square footage of facilities identified for demolition under the Industrial Alternative is slightly less than under the Mixed Use Alternative, but considerably greater than under the Proposed Action. ACM abatement activities are subject to all applicable federal, state, and local regulations to minimize the potential risk to human health and the environment, and, therefore, no impacts would occur as a result of implementing this alternative. Property recipients would be advised, to the extent known, of the type, condition, and amount of ACM within any real property conveyed.

4.3.3.6 **Pesticides.** Under the Industrial Alternative, pesticide usage would increase over closure baseline conditions, mainly due to an increase in industrial, warehousing, commercial, and public facilities/recreation land uses and, to a lesser degree, residential and federal land uses. Pesticides would continue to be used. Management practices would be subject to FIFRA and state guidelines and, therefore, would not result in any unacceptable impacts.

4.3.3.7 **Polychlorinated Biphenyls.** All federally and state-regulated PCB equipment and PCB-contaminated equipment will be removed and properly disposed of prior to station closure; therefore, these materials would not create any impacts under the Industrial Alternative.

4.3.3.8 **Radon.** The Commanders Residence, the only building with a radon level above 4 pCi/l (4.8 pCi/l), is scheduled for demolition under this alternative and since no radon exposure guidelines or action levels have been established by federal or state regulatory agencies for buildings other than schools and residences, radon would not create any impacts.

4.3.3.9 **Medical/Biohazardous Waste.** No medical/biohazardous wastes are expected to be generated under this alternative; therefore, no impacts are anticipated.

4.3.3.10 **Ordnance.** Redevelopment of the small arms firing range property may be delayed in order to remove spent bullets and, if necessary, remediate

contaminated soils. Management of this property would be similar to that identified under the Proposed Action.

4.3.3.11 Lead-Based Paint. Lead-based paint management practices under this alternative would be similar to those identified under the Proposed Action.

4.3.3.12 Mitigation Measures. Mitigation measures for this alternative are similar to those identified under the Proposed Action.

4.3.4 No-Action Alternative

Facility and grounds maintenance (e.g., painting, pest control) would be the primary activities that would involve hazardous materials. Under the No-Action Alternative, the OL and caretaker would manage all hazardous waste under all applicable regulations. The only other hazardous materials/ hazardous waste issues associated with this alternative would concern the final phases of the IRP activities.

4.3.4.1 Hazardous Material Management. Hazardous materials would be used in preventative and regular facility and grounds maintenance activities. The materials used for these activities would include motor fuels, POL, pesticides, paints, and thinners. The OL and caretaker would be responsible for hazardous materials handling training, as well as hazardous materials communication requirements of the EPCRA and OSHA regulations. Quantities of hazardous materials would be similar to those used at closure.

4.3.4.2 Hazardous Waste Management. The hazardous waste storage area would be closed unless utilized by the OL and caretaker. The amounts of hazardous waste generated would be similar to the amounts generated at closure. The small amount of hazardous waste that would be generated under the No-Action Alternative may enable the OL and caretaker to become an exempt, small-quantity generators. The OL and caretaker must comply with all applicable hazardous waste regulations.

4.3.4.3 Installation Restoration Program. Any ongoing or new IRP site investigations, remedial designs, and remedial actions would be accomplished by the OL, the DLA, and their contractors. The OL would also support the utility requirements of these contractors, provide security for the IRP areas, and perform other duties as required to complete the IRP.

4.3.4.4 Storage Tanks. No USTs would remain on Gentile AFS at the time of closure. However, all aboveground storage tanks not utilized by the OL and caretaker would be purged of fuel fumes to preclude fire hazards. The state may order the removal of tanks that are out of service. The OL and caretaker would provide repair and general maintenance for the remaining aboveground storage tanks and piping or remove them in accordance with applicable regulations. Under the No-Action Alternative, all oil/water

separators would be pumped out, removed, and any associated contamination remediated.

4.3.4.5 Asbestos. The impacts from ACM under the No-Action Alternative would be minimal. The vacated buildings would be secured to prevent contact with ACM. Management of ACM in occupied facilities would be accomplished to protect human health.

4.3.4.6 Pesticides. Under the No-Action Alternative, the grounds would be maintained in a manner to facilitate economic resumption of use. There should not be any appreciable increase in the use of pesticides from the closure baseline. Application of pesticides would be conducted in accordance with FIFRA and state regulations to ensure the proper and safe handling and application of all chemicals.

4.3.4.7 Polychlorinated Biphenyls. All federally and state-regulated PCB equipment and PCB-contaminated equipment will be removed and properly disposed of prior to station closure; therefore, these materials will not create any impacts under the No-Action Alternative.

4.3.4.8 Radon. No impacts from radon would result under the No-Action Alternative. Vacated buildings, including the Commanders Residence, would be secured to prevent entry. However, the sub-slab ventilation system will remain operational to prevent the buildup and possible exposure to radon should OL or caretaker personnel enter the facility.

4.3.4.9 Medical/Biohazardous Waste. All existing medical/biohazardous wastes will be removed prior to station closure; therefore, these materials would not create an impact under the No-Action Alternative.

4.3.4.10 Ordnance. The small arms firing range property will be cleared of spent bullets and further investigated to determine the presence of soil contamination; any contaminated soils would be remediated.

4.3.4.11 Lead-Based Paint. The impacts from lead-based paint under the No-Action Alternative would be minimal. Vacated buildings would be secured to prevent entry. Occupied facilities would be maintained to prevent exposure to lead-based paint.

4.3.4.12 Mitigation Measures. Under the No-Action Alternative, the OL and caretaker would be responsible for the stationwide management of hazardous materials and wastes. Contingency plans would need to be developed to address spill response and are anticipated to be less extensive than those required for any of the reuse alternatives. Implementation of such procedures could effectively mitigate any potential impacts associated with the No-Action Alternative.

4.4 NATURAL ENVIRONMENT

This section describes the potential effects of the Proposed Action and alternatives on the natural environment of geology and soils, water resources, air quality, biological resources, and cultural resources on the station area and the surrounding region.

4.4.1 Geology and Soils

The potential environmental effects of the Proposed Action and reuse alternatives on the local geology and soils have been analyzed based on review of published literature and data, as summarized in Section 3.4.1. Geology and soil profiles could be altered by actions taken under the reuse alternatives. Most soil impacts would be short term; disturbed soils would remain relatively stable in the long term because they would be overlain by facilities or pavement, or landscaped. Acreage to be disturbed under the Proposed Action and alternatives between closure and 5, 10, and 20 years of redevelopment are presented in Chapter 2.0. Soil contamination related to station activities are discussed in Section 4.3, Hazardous Material and Hazardous Waste Management.

4.4.1.1 Proposed Action. Effects of the Proposed Action on the regional geology and soils would primarily result from ground disturbance associated with facility construction, renovation, demolition, and infrastructure improvement. These activities could alter the soil profiles and local topography.

Geology. The Proposed Action would result in negligible or no impacts to geology. Use of sand and gravel resources (e.g., construction material, concrete) for new facilities and roadways would not be expected to appreciably reduce availability of these materials from local suppliers. No viable economic minerals (sand and gravel, limestone, or oil and gas) occur within the station boundaries; therefore, the Proposed Action would not cause any irreversible or irretrievable loss of these resources.

The potential for impacts from natural hazards is low. The station is located in Seismic Zone 1, which indicates the region has a low potential for sustaining major damage from a large earthquake. As a result, seismic safety is not a major design requirement. However, all new construction would need to comply with appropriate design considerations in accordance with the Uniform Building Code. Based on local geology, there is little potential for ground collapse from sinkholes, occurrence of landslides, liquefaction, or related natural hazards.

Soils. Effects of the Proposed Action on the regional soils would be minimal. Effects on local soils would primarily result from the construction activities associated with the Proposed Action such as grading, excavating, demolition of buildings, and possible recontouring of the soils. These activities could

alter soil profiles and local topography. However, both soils identified on the station are classified as disturbed urban soils; thus, further alteration of soils would have a minimal effect and would have no effect outside the areas of direct disturbance. Acreage to be disturbed under the Proposed Action between closure and 5, 10, and 20 years of redevelopment are presented in Chapter 2.0 (see Table 2.2-3).

Construction activities, demolition of buildings, site grading, and excavation would alter profiles and local topography in the immediate vicinity of the site, resulting in potential wind and water erosion of exposed soils. By 2016, approximately 53 acres would be impacted by construction of new facilities, resulting in short-term increases in soil erosion. Prior to construction, a soil erosion plan most likely will be required as part of the construction and demolition permitting process. The plan would include a detailed strategy for the reduction of potential soil erosion. Once disturbed areas have been covered with pavement, buildings, facilities, or vegetation, susceptibility to erosion would be minimal.

No prime farmlands have been identified on the station. The state of Ohio does not recognize unique, statewide, or locally important soils. The Farmland Conversion Impact Rating Form (U.S. Department of Agriculture Form AD-1006) is included in Appendix J. The district conservationist has determined that the site does-not contain any prime, unique, statewide, or local important farmland; therefore, the Farmland Protection Policy Act (FPPA) does not apply, and further analysis of loss of prime farmland by Form AD-1006 is not necessary. Because the FPPA does not apply, no related impacts are expected.

As discussed in Section 4.3 , Hazardous Materials and Hazardous Waste Management, ongoing studies and restoration of contaminated soil would continue as required. Because the specific decisions within the Proposed Action would be designed to prevent interference with these activities, no impacts to the restoration of contaminated soils would be expected.

Mitigation Measures. If soil erosion control plans are not required by local authorities prior to any new construction or ground-disturbing activities, the following various alternative measures are available to minimize erosion problems that may be associated with wind and water erosion, especially during ground-disturbing activities when trenches and cut slopes are exposed.

- Addition of protective covering such as mulch, straw, plastic netting, or combinations of the above

- Use of sandbags as diverting techniques or desilting basins could reduce water erosion of slopes, partially graded streets, parking areas, or graded building pads

- Maintain a buffer strip of vegetation around the West Branch of Little Beaver Creek, where possible, to filter sediments

- Revegetate slopes and open areas as soon as practical with seeded wood-based mulch

- Limiting the amount of area disturbed, and length of time slopes and barren ground are left exposed.

After the construction phase, the most effective long-term erosion control could be accomplished by keeping soils under vegetation cover. Soils underlying facilities and pavements would be subject to negligible soil erosion. Soil erosion measures would be implemented by the property recipient or their development contractor.

The effectiveness and cost of the above measures would depend on wind, rain, soil type, slope, and type of material used to reduce erosion. The above measures for reducing soil erosion are considered effective depending on the site characteristics. For construction near housing or creeks, the most effective measures include the use of buffer strips. Buffer strips generally consist of planted grasses and trees. For steeper slopes or partially graded areas, the use of sandbags or desilting basins have been a proven effective measure in reducing erosion. Effective measures for reducing soil erosion on level areas not near critical resources could include limiting the amount of area disturbed and length of time the barren area is exposed. Reducing soil erosion would benefit water resources and biological resources by minimizing turbidity in streams and potential wetlands.

4.4.1.2 Mixed Use Alternative. Effects from the Mixed Use Alternative on the regional geology and soils would be similar to those discussed under the Proposed Action, except more land (76 acres) would be disturbed. Effects from soil disturbance and erosion are considered to be slightly higher since more acres would be disturbed. However, effects would be short term because exposed areas would be covered by pavement or landscaping, thus reducing the potential erosion effects. No conversion of prime farmland would occur since prime farmland has not been identified on the station.

Mitigation Measures. Mitigation measures would be similar to those described under the Proposed Action.

4.4.1.3 Industrial Alternative. Impacts from the Industrial Alternative would be similar to those of the Proposed Action. Total land area to be disturbed by construction activities would be 53 acres resulting in short-term increases in soil erosion. However, effects would be short term because exposed areas would be covered by pavement or landscaping, thus reducing the potential erosion effects. No conversion of prime farmlands would occur.

Mitigation Measures. Mitigation measures would be similar to those described under the Proposed Action.

4.4.1.4 No-Action Alternative. Because ground-disturbing operations would be minimal or none under the No-Action Alternative, there would be little or no impact to geology and soils. No prime farmland would be affected by this alternative.

4.4.2 Water Resources

The following section describes the potential environmental effects on water resources as a result of the Proposed Action and alternatives. Ground-disturbing activities could alter soil profiles and natural drainages, which, in turn, could alter water flow patterns. Impacts to water quality from hazardous waste contaminants are addressed in Section 4.3, Hazardous Material and Hazardous Waste Management.

4.4.2.1 Proposed Action. Under the Proposed Action, 53 acres of soils would be disturbed. However, only 11 acres of previously undisturbed soil would be compacted during new construction and overlain with impervious surfaces, and 42 acres of currently developed land would be reused. Thus, only a slight increase in storm water runoff to local storm drains would occur. This would constitute a negligible impact to water resources. No major changes to area drainages would occur as a result of the Proposed Action.

Storm water discharge (nonpoint source) from the commercial and industrial areas may contain small amounts of fuels, oils, and other residual contaminants that could degrade surface water resources. In addition, nonpoint source runoff could cause higher sediment loads in drainage systems during construction, when soil erosion potential is at its maximum. The demolition of buildings not scheduled for reuse could potentially degrade water quality, as well, in the West Branch of Little Beaver Creek until facilities or landscaping are established. However, runoff from construction and demolition activities would be short term and confined to a relatively small area. With soil erosion mitigation measures, effects to water resources would be negligible.

Acquisition of new permits by property recipients, in accordance with applicable regulations, would be required for continued operation of existing facilities after station closure. Reuse activities may also be subject to NPDES permit requirements for storm water discharge during the construction period, and continued operation of commercial and industrial buildings. NPDES permits generally include long-term sampling and monitoring of storm water outfalls. This provision is contained in the NPDES permit application regulation for storm water discharges issued by the U.S. EPA as a final rule on November 16, 1990.

There are no septic tank absorption fields or sewage lagoons located at or near Gentile AFS; therefore, there is no potential for impacts to surface or groundwater quality from such systems at the station.

Wetlands. Potential wetlands would continue to receive runoff with no major changes to current drainage patterns. Therefore, no impacts to runoff supplying water to the potential wetland associated with the West Branch of Little Beaver Creek would result from the Proposed Action. For detailed discussion of wetland resources, see Section 4.4.4., Biological Resources.

Floodplains. No designated 100-year floodplains have been mapped at the station. However, a potential 100-year floodplain may exist adjacent to the West Branch of Little Beaver Creek. Currently no development at the station is within this area. Under the Proposed Action, no construction is planned within this potential 100-year floodplain.

Should the area adjacent to the West Branch of Little Beaver Creek be designated as a 100-year floodplain by the Federal Emergency Management Agency or other local agencies, the Air Force would need to comply with appropriate requirements for the disposal of property in floodplains, as established in Executive Order (EO) 11988 and AFI 32-7064, to ensure minimal potential for future impacts. Property transferred to other federal agencies would continue to be subject to these requirements. Disposal of lands to nonfederal or private entities would require full disclosure of potential federal, state, and local restrictions on the use of floodplains, in addition to other impact minimization procedures.

Groundwater. Under the Proposed Action, impacts to groundwater quality are possible, but unlikely. During construction and demolition activities, minor accidental spills of fuels, lubricants, and oils from construction equipment may occur. The potential of a large enough spill to significantly effect groundwater quality is considered negligible.

The long-term potential for groundwater contaminants from general operation under the Proposed Action are possible, but unlikely. Minor spills of contaminants onto the ground over time can result in contaminants being flushed through the soil to the groundwater. However, RCRA regulations for the handling of hazardous materials make even these minor occurrences much less likely than in the past, and contamination of the groundwater is not considered probable.

The city of Oakwood is currently developing guidelines for a wellhead protection program. Should the city of Oakwood's finalized wellhead protection program include the northwest corner of the station, as proposed under their 5-year migration boundary (see Section 3.4.2.3.), users of hazardous materials may be required to report amounts and types of chemicals used on the property, or be limited on the quantity and types of chemicals stored within the wellhead protected area.

The projected water demand for all activities associated with the Proposed Action is 0.22 MGD by 2016. This water use would be slightly greater than the 0.17 MGD utilized at preclosure. Although there is a slight increase in water use over preclosure needs, the use rate is very small when compared to the total projected ROI use of 75.4 MGD for 1995. This increase would be considered a negligible impact to water resources in the Dayton area.

Mitigation Measures. Mitigation measures to reduce impacts from surface water runoff would be similar to those discussed for soil erosion (Section 4.4.1.1); these measures are primarily concerned with construction and demolition activities. Compliance with NPDES permits will reduce possible impacts to surface water quality by the Proposed Action.

No specific mitigation measures are expected to be needed to protect groundwater resources. Adequate enforcement of existing RCRA regulations and the city of Oakwoods wellhead protection program would adequately protect groundwater resources.

4.4.2.2 Mixed Use Alternative. Types of impacts associated with water resources under the Mixed Use Alternative would be similar to those of the Proposed Action. No major changes to potential wetlands or drainages would result. NPDES permits may be required for reuse actions and new construction activities. There would be slightly more acres of impervious surfaces created, resulting in slightly more storm water runoff than the Proposed Action. No construction activities would take place within the potential floodplain. Requirements for compliance with EO 11988 and AFI 32-7064 would be the same as with the Proposed Action.

The projected water demand for activities associated with the Mixed Use Alternative is expected to be 0.27 MGD. This represents a 58 percent increase over preclosure station usage. However, the projected water demand is only 0.3 percent of the projected 1995 ROI usage, and only 0.15 percent of the ROI water treatment capacity; therefore, this increase would have a negligible effect on Dayton area water supplies.

Mitigation Measures. Mitigation measures would be similar to those described under the Proposed Action.

4.4.2.3 Industrial Alternative. The types of impacts associated with water resources under this alternative would be similar to those of the Proposed Action. No major changes to potential wetlands or drainage patterns would result. NPDES permits would be required for reuse actions and new construction activities. There would be slightly less acres of additional impervious surfaces created, resulting in slightly less surface runoff than that of the Proposed Action. No construction activities would occur within the potential floodplain. Requirements for compliance with EO 11988 and AFI 32-7064 would be the same as with the Proposed Action.

The projected water demand for all activities associated with the Industrial Alternative would be 0.17 MGD, the same as 1993 station usage under preclosure conditions. Therefore, there would be negligible impact on Dayton area water supplies.

Mitigation Measures. Potential mitigation measures would be similar to those described under the Proposed Action.

4.4.2.4 No-Action Alternative. The ground-disturbing operations associated with this alternative would be minimal or nonexistent, and restricted to maintenance-type activities and IRP activities; therefore, negligible impacts to water resources would result. NPDES permits would be retained for continued maintenance-type activities and for nonpoint storm discharges. Drainage patterns would not be altered and water usage would be reduced from preclosure conditions. Because no adverse impacts are expected, no mitigation measures would be necessary.

4.4.3 Air Quality

Air quality impacts would occur during construction and operations associated with the Proposed Action and alternatives for Gentile AFS. Intermittent construction-related impacts would occur from fugitive dust (particulate matter) and construction equipment emissions. Operational impacts would occur from (1) mobile sources, such as motor vehicles; (2) point sources, such as boilers used for heating, generators, and storage tanks; and (3) area-type emission sources, such as fugitive solvents.

The methods selected to analyze impacts depend upon the type of emission source being examined. Air quality analytical methods are summarized here and presented in detail in Appendix H. Analysis involved calculating the emissions from mobile, point source, and area sources associated with each alternative and comparing these emissions to preclosure conditions to determine if increased emissions would cause or contribute to the exceedance of an NAAQS.

Air quality emissions are calculated through 2006 (10 years after closure). The effects of the 1990 CAA Amendments, such as electric and other low emission vehicle ownership percentages, cannot be accurately predicted very far into the twenty-first century. The uncertainties of long-range population and traffic projections, future CAA changes, and the complex interaction of meteorology with emission inventories make emission projections beyond 10 years too speculative.

The following assumptions were made in estimating the effects of the alternatives:

- For construction, fugitive dust emissions were based on the acreage disturbed each year. Grading activity was assumed to occur 115 days per year. Construction equipment was assumed to be active 230 days per year.

- The computer software program MOBILE 5.0A was used to generate emission factors for on-road vehicles. U.S. EPA-recommended default values were used whenever possible.

- Annual mileage for military vehicles was estimated from fuel use data using the assumption of 15 miles per gallon for gasoline vehicles and 6 miles per gallon for diesel vehicles.

- The number of employee vehicles was assumed to equal the number of employees times a factor of 0.95 to account for ridesharing.

- Reuse-related industrial, commercial, and residential emissions were calculated using indicator-based emission factors derived from regional emission inventory and regional employment and/or population data. Per employee or per resident emission factors generated from county-level emissions data were assumed to be representative of factors that would be associated with the industrial, commercial, and residential land use areas of the reuse alternatives.

- It was assumed that stationary sources would include only area source emissions.

- It was assumed that PM_{10} point source emissions associated with the industrial land use area would be well controlled by existing compliance requirements and negligible in magnitude.

- It was assumed that no area/off-road mobile sources would be associated with land use areas other than industrial, commercial, or residential.

- It was assumed that future SO_2 and PM_{10} area/off-road mobile source emissions associated with the industrial, commercial, and residential land use areas would be negligible in magnitude.

Except for CO, new pollutant emissions in an attainment area are prevented from creating a nonattainment condition by federal PSD regulations. PSD regulations limit the allowable ambient impact of NO_2, PM_{10}, and SO_2 emissions from new or modified major stationary sources to specific increments. These increments are designed to prevent new or modified sources from causing significant degradation of an area's air quality. For PSD purposes, major stationary sources are generally defined as those sources that emit more than 100 tons per year of an attainment pollutant. PSD is not expected to apply at Gentile AFS, since no new major stationary sources are anticipated as part of the reuse actions. New non-major sources (e.g., solvent cleaning tanks, storage tanks, generators), which may be

required as part of the reuse actions, would be subject to the applicable Rules and Regulations and permitting requirements of the Ohio EPA.

Section 176(c) of the CAA provides that a federal agency cannot support an activity in any way unless the federal agency determines that the activity will conform to the purpose of a U.S. EPA-approved State Implementation Plan (SIP) for attaining and maintaining the NAAQS. This means that federally supported or funded activities will not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any standard; or (3) delay the timely attainment of any standard or any required interim emission reductions or other milestones in any area. In accordance with Section 176(c), the U.S. EPA promulgated the final conformity rule for general federal actions on November 30, 1993, which is codified as 40 CFR 51 Subpart W, and 40 CFR 93 Subpart B. The 40 CFR 93 Subpart B applies to federal agencies until states revise their SIPs to adopt a conformity rule at least as stringent as U.S. EPA's rule (40 CFR 51 Subpart W).

Under the existing rule, conformity determinations are not required for actions that would result in either no emissions increase or an emission increase that is clearly below the threshold of significance (de minimis). Such actions are defined to include actions similar to those considered here: transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to promptly occur after specific reasonable conditions are met (such as meeting the remedial action requirements of CERCLA), and where the federal agency does not retain continuing authority to control emissions associated with the lands, facilities, title, or real properties. As such, it is not necessary for the Air Force to prepare a conformity determination for disposal of property. However, federal agencies would be required to comply with the conformity regulations and, if necessary, prepare conformity determinations prior to implementing federal actions associated with reuse of the property.

The current rule defines the emission thresholds that determine whether the federal action requires a conformity determination. Federal actions with total direct and indirect emissions that remain below the emission thresholds do not require written conformity determinations prior to implementation. The emission thresholds are based on the region's nonattainment status and regional emission levels. The specific de minimis emission thresholds for the Dayton/Springfield Airshed are 100 tons per year for both VOC and NO_x emissions (ozone precursors). The definitions of total direct and indirect emissions for conformity purposes distinguish emissions according to timing and location rather than the type of emission source. Direct emissions occur at the same time and place as the federal action. Indirect emissions include those that may occur later in time or at a distance from the federal action. The conformity rule limits the scope of indirect emissions to those which can be quantified and are reasonably foreseeable by the federal agency at the time of analysis. In addition, indirect emissions are those for which the

federal agency can practicably control and maintain control through its continuing program responsibility.

The only federal reuse-related action associated with the reuse alternatives would be the establishment of a federal office/warehousing/DFAS area. Direct and indirect emissions associated with the federal use area would be a subset of the total reuse-related emissions summarized in Section 4.4.3.1. Potential direct and indirect emissions would primarily consist of the mobile source emissions associated with on-station operations and motor vehicle emissions from employee commute trips. Based on the emission analyses summarized in Appendix H, the direct and indirect emissions for the federal activities described in Chapter 2.0 would remain below the de minimis emission thresholds for each of the proposed reuse alternatives and, therefore, would not be subject to a written conformity determination.

4.4.3.1 Proposed Action

Construction. Fugitive dust would be generated during the construction of industrial, commercial, public facilities/recreation, and federal land uses proposed as part of this alternative. These emissions would be greatest during site clearing and grading activities. Uncontrolled fugitive dust (particulate matter) emissions from ground-disturbing activities are estimated to be emitted at a rate of 110 pounds per acre per working day or 1.2 tons per acre per month (U.S. Environmental Protection Agency, 1985). The PM_{10} fraction of the total fugitive dust emissions is assumed to be 50 percent, or 0.6 ton per acre per month (55 pounds per acre per working day).

Construction activities would disturb a total of 52 acres in the first 10 years of the Proposed Action (1996-2006), with an average disturbance of 6.2 acres per year during the period from 1996 to 2001, and 4.2 acres per year in the period from 2001 to 2006. Total fugitive PM_{10} emissions from construction activity would be 0.68 ton per year from 1996 to 2001 and 0.46 ton per year from 2001 to 2006. The impact of these PM_{10} emissions would cause elevated, short-term particulate concentrations at receptors located close to the construction areas. However, the elevated concentrations would be temporary and would rapidly decrease with distance from the site.

Combustive emissions from construction equipment associated with the new development activities were calculated based on an average construction emission factor and the amount of land to be developed per time interval. For each acre of land developed, 1,095 pounds of NO_x, 3,820 pounds of CO, 100 pounds of SO_x, 85 pounds of PM_{10}, and 290 pounds of VOCs would be emitted from construction equipment. The total combustive emissions due to construction would be 3.40 tons per year of NO_x, 11.84 tons per year of CO, 0.31 ton per year of SO_x, 0.26 ton per year of PM_{10}, and 0.90 ton per year of VOCs from 1996 to 2001. Emissions of

NO_x, CO, SO_x, PM_{10}, and VOCs in the period from 2001 to 2006 would be 2.30 tons per year, 8.02 tons per year, 0.21 ton per year, 0.18 ton per year, and 0.61 ton per year, respectively.

Operation. A summary of reuse-related construction and operation emissions for the Proposed Action is presented in Table 4.4-1 for 2001 and 2006. Reuse-related emissions are comprised of emissions from both direct and indirect sources associated with reuse of the station. The direct sources include such on-station sources as boilers, generators, degreasers, storage tanks, solvent use, paint use, and on-station vehicle miles traveled (VMT). Indirect sources are the VMTs by employees commuting to and from the station. In addition to the calculated indirect mobile source emissions, other indirect source emissions would be added to the ROI inventory by new population in-migrating in response to reuse activities. However, for all alternatives, the in-migrating population is a small portion of the existing ROI population (less than 0.04 percent). The amount of nonmobile indirect source emissions attributable to this new population would be negligible in comparison to the existing ROI emissions inventory. Estimates for all emissions were calculated using the methodologies as described in Appendix H, Air Quality Analysis Methods and Air Emissions Inventory for Gentile AFS.

Table 4.4-1. Emissions Associated with the Proposed Action (tons per year)

	Montgomery/Greene Counties	Gentile AFS	Reuse-Related Emissions	
Pollutant	1990	Preclosure 1992	2001	2006
NO_x	29,079	67.5	187.3	250.7
CO	223,242	288.4	551.6	795.9
SO_2	8,785	55.8	0.4	0.3
PM_{10}	953	5.0	0.9	0.6
VOC	37,274	36.8	608.1	880.9

CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_2 = sulfur oxides
VOC = volatile organic compound

Potential impacts to air quality as a result of operational emissions from the Proposed Action were evaluated in terms of two spatial scales: regional and local. The regional-scale analysis considered the potential for total reuse-related emissions to cause the nonattainment status of the air shed for any pollutant as indicated by large increases in the regional pollutant inventories (NO_x, CO, SO_2, PM_{10}, and VOC emissions). The local-scale analysis evaluated the potential for emissions to cause or contribute to an

exceedance of any NAAQS in the immediate vicinity of the station. If one of these conditions were to occur, the Proposed Action would have an adverse impact on air quality.

Regional Scale. Emissions of NO_x, CO, and VOC from the Proposed Action are greater than emissions that occurred under preclosure conditions. Nonetheless, it is not expected that the Proposed Action would cause the region to become nonattainment for any criteria pollutant. The following paragraphs summarize the results of the regional-scale impact analysis on a pollutant-by-pollutant basis.

Ozone Precursors. Table 4.4-1 provides a comparison of emission estimates for Montgomery and Greene counties (preclosure), Gentile AFS (preclosure), and the Proposed Action at 5- and 10-year increments after closure (i.e., for 2001 and 2006). Table 4.4-1 shows that NO_x and VOC emissions would exceed preclosure levels throughout the 10-year analysis period. By 2006, the total reuse-related NO_x and VOC emissions would exceed preclosure emissions at Gentile AFS by 183.2 tons per year and 844.1 tons per year, respectively. Most of these emissions (212 of the 251 tons per year of NO_x and 864 of the 881 tons per year of VOC) would be caused by sources associated with the industrial land use (see Appendix H). The estimates of future reuse-related industrial source emissions are conservative in nature because they are based on emissions from equipment used in 1990 throughout the entire ROI. Newer, less polluting equipment would most likely be required for industrial redevelopment associated with reuse. These new sources would be regulated under the Ohio EPA permitting regulations, and would require installation of best available emission control technology and/or offset significant emissions increases, depending on the size and category of the source.

In addition, the 1990 CAA Amendments require the U.S. EPA to finalize NESHAP to affect a reduction in risk to human health from HAPs. Of the 189 U.S. EPA-listed HAPs, approximately 170 can also be considered VOCs. Application of MACT and generally available control technology proposed as part of the final NESHAP would result in a reduction of future VOC emissions. Furthermore, as part of the approved Dayton/Springfield, Ohio Redesignation Application submitted to the U.S. EPA by the Miami Valley Regional Planning Commission (1993), it was demonstrated that VOC emissions from all sources in the four-county Dayton/Springfield Airshed (Clark, Greene, Miami, and Montgomery) would remain at least 7 to 11 tons per day below the attainment level baseline through the year 2005. The redesignation request concluded that this decrease in VOC emissions would occur as the result of implementation of: (1) stage II vapor control, (2) use of clean gasoline, and (3) an enhanced motor vehicle inspection and maintenance program. The U.S. EPA-approved redesignation request further concluded that NO_x emission reductions were not required to maintain the ozone standard since "NO_x emissions are below the level needed to maintain the NAAQS and with the implementation of control measures specified in the

Section 175A maintenance plan are projected to remain below this attainment level through the year 2005." Further, Title IV of the CAA (Acid Deposition Control) will require significant NO_x reductions in the ROI over the next 10 years in any event, even without additional controls under Title I (Air Pollution Prevention and Control). The small ton per day increases in VOC and NO_x reuse-related emissions would be offset by the decreases expected throughout the region and would not be sufficient to jeopardize maintenance of the ozone attainment status of the region.

NO_2, CO, SO_2, and PM_{10}. Table 4.4-1 provides a means to compare emissions from the Proposed Action to 1990 ROI emissions and 1992 station preclosure emission levels. Direct reuse-related SO_2 and PM_{10} emissions would be less than preclosure emission levels. Emissions of SO_2 and PM_{10} from the Proposed Action would therefore not affect maintenance of the attainment status of the respective pollutant standards. NO_x and CO emissions would exceed preclosure levels throughout the 10-year analysis period. All NO_x emissions in Table 4.4-1 are assumed to convert to NO_2 emissions on a regional basis. By 2006, the total reuse-related NO_2 and CO emissions would exceed preclosure emissions at Gentile AFS by 183.2 tons per year and 507.5 tons per year, respectively. These increases represent approximately 0.6 and 0.2 percent of Montgomery and Greene counties inventory for NO_x and CO. However, Title IV requirements to reduce acid deposition and more stringent tailpipe exhaust standards will cause an overall reduction in regional NO_2 and CO emissions. The reuse-related increases of NO_2 and CO would, therefore, not be sufficient to affect the attainment status of the region for either of these pollutants.

Local Scale. Reuse-related emissions of SO_2 and PM_{10} associated with the Proposed Action would be less than emissions that occurred during preclosure conditions. In 2006, the increased emissions of VOC, NO_2, and CO would be 2.3, 0.6, and 0.2 percent, respectively, of Montgomery and Greene counties emissions. In addition, the ambient concentrations of NO_2 and CO are currently less than 60 percent of the NAAQS (see Table 3.4-4). With the phase-in of more stringent tailpipe exhaust standards for later model automobiles and the implementation of reduced fuel volatility standards being promulgated by the U.S. EPA, the ambient background concentrations of VOC, NO_2, and CO would be reduced from preclosure conditions. In addition, Title IV requirements to reduce acid rain would reduce ambient background concentrations of NO_2 and SO_2. Local air quality impacts of reuse-related emissions from the Proposed Action would be expected to be similar to or less than those that occurred under preclosure conditions, and would have no adverse impact on local air quality because: (1) emissions of SO_2 and PM_{10} are less than preclosure conditions; (2) increased VOC, NO_2, and CO emissions are small fractions of the baseline Montgomery and Greene counties inventories for VOC, NO_2, and CO; (3) the ambient concentrations of NO_2 and CO are currently less than 60 percent of the respective NAAQS; and (4) ambient concentrations of VOC, NO_2, CO, and SO_2 are expected to decrease from current levels.

Mitigation Measures. Project impacts associated with the Proposed Action would not be adverse. Mitigation of impacts would, therefore, not be required.

4.4.3.2 Mixed Use Alternative

Construction. Construction impacts from the Mixed Use Alternative would be somewhat greater than those under the Proposed Action primarily because of the larger amounts of disturbance under this alternative. Applying the same assumptions discussed in the Proposed Action, it is estimated that construction activities would disturb an average of 10.6 acres per year from 1996 to 2001, and 3.8 acres per year from 2001 to 2006. These levels of disturbance would release an estimated 1.17 tons per year and 0.42 ton per year of PM_{10} for the same two time periods, respectively. The impact of these PM_{10} emissions would cause elevated short-term particulate concentrations at receptors located close to the construction areas. However, the elevated concentrations would be temporary and would rapidly decrease with distance from the construction site.

Combustive emissions from construction equipment associated with the new development activities were calculated based on average emission factors and the amount of land to be developed per time interval. The total combustive emissions due to construction would be 5.8 tons per year of NO_x, 20.25 tons per year of CO, 0.53 ton per year of SO_x, 0.45 ton per year of PM_{10}, and 1.54 tons per year of VOCs from 1996 to 2001. Emissions of NO_x, CO, SO_x, PM_{10}, and VOCs from 2001 to 2006 would be 2.08, 7.26, 0.19, 0.16, and 0.55 tons per year, respectively.

Operation. Table 4.4-2 summarizes the results of the construction and operation emission calculations associated with the Mixed Use Alternative for the years 2001 and 2006.

Regional Scale. The evaluation of regional-scale impacts from the Mixed Use Alternative considered the effects reuse-related air emissions would have on the air quality attainment status of the ROI. As with the Proposed Action, emissions from this alternative would not jeopardize the attainment status of any criteria pollutant. The following paragraphs summarize the results of the regional-scale impact analysis on a pollutant-by-pollutant basis.

Ozone Precursors. Table 4.4-2 provides a comparison of emission estimates for Montgomery and Greene counties (preclosure), Gentile AFS (preclosure), and the Mixed Use Alternative at 5- and 10-year increments after closure (i.e., for 2001 and 2006). Table 4.4-2 shows that NO_x and VOC emissions would exceed preclosure levels throughout the 10-year analysis period. Total reuse-related NO_x emissions would exceed preclosure emissions at Gentile AFS by 110.2 tons per year in 2001 and VOC emissions would exceed preclosure levels by 542.8 tons per year in 2006. Most of these emissions (146 of the 178 tons per year of NO_x and 562 of the 580 tons per

Table 4.4-2. Emissions Associated with the Mixed Use Alternative (tons per year)

	Montgomery/Greene Counties	Gentile AFS	Reuse-Related Emissions	
		Preclosure		
Pollutant	1990	1992	2001	2006
NO_x	29,079	67.5	177.7	175.2
CO	223,242	288.4	525.7	514.6
SO_2	8,785	55.8	0.6	0.3
PM_{10}	953	5.0	1.6	0.6
VOC	37,274	36.8	578.1	579.6

CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_2 = sulfur oxides
VOC = volatile organic compound

year of VOC) would be caused by sources associated with the industrial land use (see Appendix H). The estimates of future reuse-related industrial source emissions are conservative in nature because they are based on emissions from equipment used in 1990 throughout the entire ROI. Newer, less polluting equipment would most likely be used for industrial redevelopment associated with reuse. These new sources would be regulated under the Ohio EPA permitting regulations and would require installation of best available emission control technology and/or offset significant emissions increases, depending on the size and category of the source.

In addition, the 1990 CAA Amendments require the U.S. EPA to finalize NESHAP to affect a reduction in risk to human health from HAPs. Of the 189 U.S. EPA-listed HAPs, approximately 170 can also be considered VOCs. Application of MACT and generally available control technology proposed as part of the final NESHAP would result in a reduction of future VOC emissions. Furthermore, as part of the approved Dayton/Springfield, Ohio Redesignation Application submitted to the U.S. EPA by the Miami Valley Regional Planning Commission (1993), it was demonstrated that VOC emissions from all sources in the four-county Dayton/Springfield Airshed (Clark, Greene, Miami, and Montgomery) would remain at least 7 to 11 tons per day below the attainment level baseline through the year 2005. The redesignation request concluded that this decrease in VOC emissions would occur as the result of implementation of: (1) stage II vapor control, (2) use of clean gasoline, and (3) an enhanced inspection and maintenance program. The redesignation request further concluded that NO_x emission reductions were not required to maintain the ozone standard since "NO_x emissions are below the level needed to maintain the NAAQS and with the implementation of control measures specified in the Section 175A maintenance plan are

projected to remain below this attainment level through the year 2005." Further, Title IV of the CAA (Acid Deposition Control) will require significant NO_x reductions in the ROI over the next 10 years in any event, even without additional controls under Title I (Air Pollution Prevention and Control). The small ton per day increases in VOC and NO_x reuse-related emissions would be offset by the decreases expected throughout the region and would not be sufficient to jeopardize maintenance of the ozone attainment status of the region.

NO_2, CO, SO_2, and PM_{10}. Table 4.4-2 provides a means to compare emissions from the Mixed Use Alternative to 1990 ROI emissions and 1992 station preclosure emission levels. Direct reuse-related SO_2 and PM_{10} emissions would be less than preclosure emission levels. Emissions of SO_2 and PM_{10} from the Mixed Use Alternative would therefore not affect maintenance of the attainment status of the respective pollutant standards. NO_x and CO emissions would exceed preclosure levels throughout the 10-year analysis period. All NO_x emissions in Table 4.4-2 are assumed to convert to NO_2 emissions on a regional basis. By 2001, the total reuse-related NO_2 and CO emissions would exceed preclosure emissions at Gentile AFS by 110.2 tons per year and 237.3 tons per year, respectively. These increases represent approximately 0.4 and 0.1 percent of Montgomery and Greene counties inventory for NO_x and CO. However, Title IV requirements to reduce acid deposition and more stringent tailpipe exhaust standards will cause an overall reduction in regional NO_2 and CO emissions. The reuse-related increases of NO_2 and CO would, therefore, not be sufficient to affect the attainment status of the region for either of these pollutants.

Local Scale. Reuse-related emissions of SO_2 and PM_{10} associated with the Mixed Use Alternative would be less than emissions that occurred during preclosure conditions. During peak periods, the increased emissions of VOC, NO_2, and CO would be 1.5, 0.4, and 0.1 percent, respectively, of Montgomery and Greene counties emissions. In addition, the ambient concentrations of NO_2 and CO are currently less than 60 percent of the NAAQS (see Table 3.4-4). With the phase-in of more stringent tailpipe exhaust standards for later model automobiles and the implementation of reduced fuel volatility standards being promulgated by the U.S. EPA, the ambient background concentrations of VOC, NO_2, and CO would be reduced from preclosure conditions. In addition, Title IV requirements to reduce acid rain would reduce ambient background concentrations of NO_2 and SO_2. Local air quality impacts of reuse-related emissions from the Mixed Use Alternative would be expected to be similar to or less than those that occurred under preclosure conditions, and would have no adverse impact on local air quality because: (1) emissions of SO_2 and PM_{10} are less than preclosure conditions; (2) increased VOC, NO_2, and CO emissions are small fractions of the baseline Montgomery/Greene County inventories for VOC, NO_2, and CO; (3) the ambient concentrations of NO_2 and CO are currently less than 60 percent of the respective NAAQS; and (4) ambient

concentrations of VOC, NO_2, CO, and SO_2 are expected to decrease from current levels.

Mitigation Measures. Project impacts associated with the Mixed Use Alternative would not be adverse. Mitigation of impacts would, therefore, not be required.

4.4.3.3 Industrial Alternative

Construction. Construction impacts from the Industrial Alternative would be somewhat greater than those under the Proposed Action primarily because of the larger amounts of disturbance under this alternative. Applying the same assumptions discussed in the Proposed Action, it is estimated that construction activities would disturb an average of 8.4 acres per year from 1996 to 2001, and 2.2 acres per year from 2001 to 2006. These levels of disturbance would release an estimated 0.92 ton per year and 0.24 ton per year of PM_{10} for the same two time periods, respectively. The impact of these PM_{10} emissions would cause elevated short-term particulate concentrations at receptors located close to the construction areas. However, the elevated concentrations would be temporary and would rapidly decrease with distance from the construction site.

Combustive emissions from construction equipment associated with the new development activities were calculated based on average emission factors and the amount of land to be developed per time interval. The total combustive emissions due to construction would be 4.6 tons per year of NO_x, 16.04 tons per year of CO, 0.42 ton per year of SO_x, 0.36 ton per year of PM_{10}, and 1.22 tons per year of VOCs from 1996 to 2001. Emissions of NO_x, CO, SO_x, PM_{10}, and VOCs from 2001 to 2006 would be 1.21, 4.20, 0.11, 0.09, and 0.32 tons per year, respectively.

Operation. Table 4.4-3 summarizes the results of the construction and operation emission calculations associated with the Industrial Alternative for the years 2001 and 2006.

Regional Scale. The evaluation of regional-scale impacts from the Industrial Alternative considered the effects reuse-related air emissions would have on the air quality attainment status of the ROI. As with the Proposed Action and Mixed Use Alternative, emissions from this alternative would not jeopardize the attainment status of any criteria pollutant. The following paragraphs summarize the results of the regional-scale impact analysis on a pollutant-by-pollutant basis.

Ozone Precursors. Table 4.4-3 provides a comparison of emission estimates for Montgomery and Greene Counties (preclosure), Gentile AFS (preclosure), and the Industrial Alternative at 5- and 10-year increments after closure (i.e., for 2001 and 2006). Table 4.4-3 shows that NO_x and VOC emissions

Table 4.4-3. Emissions Associated with the Industrial Alternative (tons per year)

	Montgomery/Greene Counties	Gentile AFS	Reuse-Related Emissions	
Pollutant	1990	Preclosure 1992	2001	2006
NO_x	29,079	67.5	139.9	174.7
CO	223,242	288.4	443.9	541.1
SO_2	8,785	55.8	0.4	0.2
PM_{10}	953	5.0	1.3	0.3
VOC	37,274	36.8	463.7	613.0

CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_2 = sulfur oxides
VOC = volatile organic compound

would exceed preclosure levels throughout the 10 year analysis period. By 2006, total reuse-related NO_x emissions would exceed preclosure emissions at Gentile AFS by 107.2 tons per year and would exceed preclosure VOC levels by 576.2 tons per year. Most of these emissions (150 of the 175 tons per year of NO_x and 602 of the 613 tons per year of VOC) would be caused by sources associated with the industrial land use (see Appendix H). The estimates of future reuse-related industrial source emissions are conservative in nature because they are based on emissions from equipment used in 1990 throughout the entire ROI. Newer, less polluting equipment would be used for industrial redevelopment associated with reuse. These new sources would be regulated under the Ohio EPA permitting regulations, and would require installation of best available emission control technology and/or offset significant emissions increases, depending on the size and category of the source.

In addition, the 1990 CAA Amendments require the U.S. EPA to finalize NESHAP to affect a reduction in risk to human health from HAPs. Of the 189 U.S. EPA-listed HAPs, approximately 170 can also be considered VOCs. Application of MACT and generally available control technology proposed as part of the final NESHAP would result in a reduction of future VOC emissions. Furthermore, as part of the approved Dayton/Springfield, Ohio Redesignation Application submitted to the U.S. EPA by the Miami Valley Regional Planning Commission (1993), it was demonstrated that VOC emissions from all sources in the four-county Dayton/Springfield Airshed (Clark, Greene, Miami, and Montgomery) would remain at least 7 to 11 tons per day below the attainment level baseline through the year 2005. The redesignation request concluded that this decrease in VOC emissions would occur as the result of implementation of: (1) stage II vapor control, (2) use of clean gasoline, and (3) an enhanced inspection and maintenance program. The redesignation request further concluded that NO_x emission reductions

were not required to maintain the ozone standard since "NO_x emissions are below the level needed to maintain the NAAQS and with the implementation of control measures specified in the Section 175A maintenance plan are projected to remain below this attainment level through the year 2005." Further, Title IV of the CAA (Acid Deposition Control) will require significant NO_x reductions in the ROI over the next 10 years in any event, even without additional controls under Title I (Air Pollution Prevention and Control). The small ton per day increases in VOC and NO_x reuse-related emissions would be offset by the decreases expected throughout the region and would not be sufficient to jeopardize maintenance of the ozone attainment status of the region.

NO_2, CO, SO_2, and PM_{10}. Table 4.4-3 provides a means to compare emissions from the Industrial Alternative to 1990 ROI emissions and 1992 station preclosure emission levels. Direct reuse-related SO_2 and PM_{10} emissions would be less than preclosure emission levels. Emissions of SO_2 and PM_{10} from the Industrial Alternative would therefore not affect maintenance of the attainment status of the respective pollutant standards. NO_x and CO emissions would exceed preclosure levels throughout the 10-year analysis period. All NO_x emissions in Table 4.4-3 are assumed to convert to NO_2 emissions on a regional basis. By 2006, the total reuse-related NO_2 and CO emissions would exceed preclosure emissions at Gentile AFS by 107.2 tons per year (0.29 ton per day) and 252.7 tons per year (0.69 tons per day), respectively. These increases represent approximately 0.4 and 0.1 percent of Montgomery and Greene counties inventory for NO_x and CO. However, Title IV requirements to reduce acid deposition and more stringent tailpipe exhaust standards will cause an overall reduction in regional NO_2 and CO emissions. The reuse-related increases of NO_2 and CO would, therefore, not be sufficient to affect the attainment status of the region for either of these pollutants.

Local Scale. Reuse-related emissions of SO_2 and PM_{10} associated with the Industrial Alternative would be less than emissions that occurred during preclosure conditions. During peak periods, the increased emissions of VOC, NO_2, and CO would be 1.5, 0.4, and 0.1 percent, respectively, of Montgomery and Greene counties emissions. In addition, the ambient concentrations of NO_2 and CO are currently less than 60 percent of the NAAQS (see Table 3.4-4). With the phase-in of more stringent tailpipe exhaust standards for later model automobiles and the implementation of reduced fuel volatility standards being promulgated by the U.S. EPA, the ambient background concentrations of VOC, NO_2, and CO would be reduced from preclosure conditions. In addition, Title IV requirements to reduce acid rain would reduce ambient background concentrations of NO_2 and SO_2. Local air quality impacts of reuse-related emissions from the Industrial Alternative would be expected to be similar to or less than those that occurred under preclosure conditions, and would have no adverse impact on local air quality because: (1) emissions of SO_2 and PM_{10} are less than preclosure conditions; (2) increased VOC, NO_2, and CO emissions are small

fractions of the baseline Montgomery and Greene counties inventories for VOC, NO_2, and CO; (3) the ambient concentrations of NO_2 and CO are currently less than 60 percent of the respective NAAQS; and (4) ambient concentrations of VOC, NO_2, CO, and SO_2 are expected to decrease from current levels.

Mitigation Measures. Project impacts associated with the Industrial Alternative would not be adverse. Mitigation of impacts would, therefore, not be required.

4.4.3.4 No-Action Alternative. The No-Action Alternative would generate negligible emissions as described under closure baseline conditions (see Section 3.4.3.2). Due to the low level of emissions produced from No-Action Alternative activities, no adverse air quality impacts would occur.

4.4.4 Biological Resources

The Proposed Action and reuse alternatives (except the No-Action Alternative) could potentially affect biological resources through the alteration or loss of vegetation and wildlife habitat. These impacts are described below for each alternative.

In the absence of specific site development plans, certain assumptions were generated to consistently analyze the effects of the Proposed Action and alternatives. These assumptions include:

- All staging and other areas temporarily disturbed by construction would be placed in previously disturbed areas (e.g., paved, cleared areas) to the fullest extent possible.

- The proportion of ground disturbance associated with each land use category was determined based on accepted land use planning concepts. Development within each parcel could occur at one or more locations anywhere within that category.

The area with the highest potential for impacts under any alternative is the non-maintained area within and immediately adjacent to the West Branch of Little Beaver Creek in the southern portion of Gentile AFS. Potential impacts are greatest in this area because of its relatively high habitat value compared to the surrounding urban landscaping.

The USFWS, through informal consultation, has concurred with the Air Force findings that threatened and endangered species do not have the potential to occur at Gentile AFS.

Coordination for potential impacts to the 2 acres of potential wetlands found at Gentile AFS would occur between the property recipients and the U.S.

Army Corps of Engineers (COE), as mandated by Section 404 of the CWA that protects wetlands and streams, due to possible impacts to wetlands.

4.4.4.1 Proposed Action. Development under the Proposed Action could adversely affect biological resources primarily through a potential loss of vegetation and wildlife habitat. Direct losses to some species may occur from construction and other activities in newly developed areas. Urban development could increase runoff of storm water and pollutants from developed areas to the West Branch of Little Beaver Creek, which may include sensitive species and wetlands.

Vegetation. The Proposed Action could result in a maximum disturbance of 53 acres during the 20-year analysis period. Landscaped vegetation could be removed for development in the industrial, commercial, public facilities/recreation, and federal land uses. Impacts to vegetation are considered minimal in landscaped and developed areas on the station; however, reuse activities under the Proposed Action could also impact potential wetlands. These impacts are discussed further under Sensitive Habitats.

Wildlife. Direct impacts from implementation of the Proposed Action could occur through individual mortality as a result of construction or operational activities. Less mobile species (small mammals, reptiles, amphibians, and invertebrates) could be affected by these types of activities, although the increased presence of equipment and vehicles could also lead to accidental mortality of larger wildlife species. The area with the highest potential for impacts under any alternative is the area within and adjacent to the West Branch of Little Beaver Creek, because of its relatively high habitat value (compared to the surrounding urban landscaping).

Threatened and Endangered Species. The federally endangered Indiana bat and the federally threatened eastern prairie fringed orchid were initially identified by the USFWS through informal consultation as having the potential to occur on Gentile AFS. At the suggestion of the USFWS, an inspection of Gentile AFS was conducted by a qualified biologist in July 1995 to ascertain the habitat potential along the West Branch of Little Beaver Creek for the Indiana bat and the eastern prairie fringed orchid. No observations of the Indiana bat or the eastern prairie fringed orchid were made during the inspection. The USFWS has concurred with the Air Force that these species do not have the potential to occur at Gentile AFS; therefore, no impacts to threatened or endangered species are expected from implementation of the Proposed Action.

Sensitive Habitats. Impacts to sensitive habitats from the Proposed Action could include disturbance of potential wetlands that might be along the West Branch of Little Beaver Creek. Disturbance of wetlands is regulated under Section 404 of the CWA and EO 11990.

Wetlands serve several important functions that include providing habitat for fish and wildlife, purifying water through sediment and toxicant retention, maintaining groundwater supplies, and preventing floods. Wetlands can lose these functions through direct and indirect impacts. Direct impacts can result from potential filling, dredging, or flooding associated with initial development. Indirect impacts can occur from ground disturbance on adjacent land resulting in increased chemical and sedimentary runoff that degrades water quality. Wildlife habitat, a beneficial value of wetlands, can become fragmented by disturbance located adjacent to wetland areas. Direct and indirect impacts to wetlands vegetation can decrease their overall value as pollutant and toxicant traps, and as floodwater regulators.

Section 404 of the CWA provides the regulatory mechanism necessary to minimize or avoid wetland impacts resulting from reuse. Under Section 404, any action that would directly involve the placement of fill material, dredging from, or flooding of wetlands or other waters of the United States requires permitting prior to implementation. According to the U.S. EPA regulations issued under Section 404(b)(1), the permitting of fill activities will not be approved unless the following conditions are met: no practicable, less environmentally damaging alternative to the action exists; the activity does not cause or contribute to violations of state water quality standards or jeopardize endangered or threatened species; the activity does not contribute to significant degradation of waters of the United States; and all practicable and appropriate steps have been taken to minimize potential adverse impacts to the aquatic ecosystem (40 CFR 230.10). Further, the guidelines establish a rebuttable presumption that for non-water dependent projects, a practicable alternative to filling of wetlands exists.

Federal agency responsibility to protect wetlands is discussed in EO 11990. Section (2)1 of the Order states that a federal agency, to the extent permitted by law, shall avoid providing assistance for new construction in wetlands unless the head of the agency concludes that there is no practicable alternative to such construction, and that the proposed project includes all practicable measures to minimize harm to wetlands that may result from such use. In determining whether an alternative is practicable, the agency may consider costs, existing technology, logistics, environmental effects, and the purpose of the project that causes the discharge of fill or dredged material into the affected wetlands. Secondary development that is attracted to the area by improved infrastructure or redevelopment will also be regulated by the COE.

Under the Proposed Action, ground disturbance would total 53 acres. Development, including redevelopment or demolition of existing facilities, is proposed for all land use categories; portions of these land uses contain potential wetlands (only the federal land use category contains no wetlands). Consequently, there is a potential that filling, draining, flooding, alteration, or other activities that impact wetlands could occur in land use categories proposed for development.

This conceptual analysis does not consider the distribution of disturbance over individual land use parcels in each land use category. Individual parcels within land use categories contain disturbance levels determined through standard land use planning assumptions. Table 4.4-4 shows the disturbance associated with land use categories that contain potential wetlands and reveals that ample non-wetland acreage would be available to allow anticipated disturbance in each land use category. Given that practical infrastructure and facility siting alternatives to wetlands are available for disturbance, it is anticipated that no potential wetlands would be directly impacted.

Table 4.4-4. Direct Impacts to Potential Wetland - Proposed Action

Land Use Category	Land Use Acreage	Disturbance Acreage	Wetland Acreage	Non-Wetland Acreage	Likely Wetland Impact
Industrial	67	25	0.5	66.5	0
Commercial	37	20	0.5	36.5	0
Public facilities/ recreation	36	6	1.0	35.0	0
Total	140	51	2.0	138	0

Note: The federal land use category does not contain potential wetlands and therefore is not applicable to this table.

Indirect impacts can occur from disturbance on land adjacent to wetlands resulting in increased or changed chemical and sedimentary runoff that degrades water quality. This, in turn, can affect biotic elements and result in an overall decreased ability of wetlands to provide beneficial functions such as wildlife habitat and sediment and toxicant retention.

In the event jurisdictional wetlands are determined to be located at Gentile AFS, EO 11990 states that when federally owned wetlands or portions of wetlands are proposed for disposal to nonfederal parties, the Air Force shall (a) reference in the conveyance those uses that are restricted under federal, state, or local wetlands regulations; and (b) attach other appropriate restrictions to the uses of properties by recipients (except where prohibited by law); or (c) withhold such properties from disposal.

Mitigation Measures. No mitigation for impacts to vegetation and wildlife (other than sensitive species habitat and wetlands) have been identified, as minimal or no impacts are anticipated. Under the Proposed Action, avoidance is the preferred mitigation for potential impacts, sensitive species habitat, and potential wetlands. Direct and indirect impacts to potential wetlands on Gentile AFS could be avoided by siting development on uplands (i.e., by siting development in areas that are not adjacent to and do not contain drainages). Avoidance could include controlling runoff from demolition and construction sites into drainages through the use of berms, silt curtains, and other appropriate techniques that do not create additional impacts. Equipment could be washed in areas where wash water could be

contained, treated, or evaporated. Buffer areas could be included in the planning process prior to siting facilities. Consultation with the USFWS and/or ODNR to determine the need for and size of these buffer areas would be the responsibility of the property recipient.

In the unlikely event that avoidance of potential wetlands proves infeasible, other mitigation measures may be necessary to minimize impacts. Reuse activities affecting federal jurisdictional wetlands would be subject to Section 404 of the CWA. If avoidance is not practicable, mitigation measures could include: (1) at-site (if possible) replacement of any sensitive habitat lost by creation or expansion of existing sensitive habitat at a ratio determined through consultation with the USFWS or COE; (2) recreation of sensitive habitat elsewhere within the site, or purchase and fencing of sensitive habitat away from the site as replacement; and (3) monitoring (until the sensitive habitat becomes established) of any replacement habitat required to determine the effectiveness of replacement and necessary remedial measures.

If the Proposed Action were implemented, the Air Force would reference in conveyance documents those uses that are restricted under federal, state, and local wetlands regulations. This reference would be made in accordance with the provisions of Section 4 of EO 11990.

The Air Force could also impose other restrictions on property recipients, as appropriate. Such restrictions could include conservation easements or deed restrictions for wetlands that might allow for public enjoyment and wildlife usage, while protecting wetlands from development. Conservation easements would be managed by responsible agencies or entities that would maintain and monitor the sensitive areas. Deed restriction would place the responsibility for protection of wetlands under the management of property recipients. These easements and/or restrictions would help to minimize potential direct and indirect impacts to sensitive habitat.

4.4.4.2 Mixed Use Alternative. A total of 76 acres of disturbance associated with development under the Mixed Use Alternative could adversely affect biological resources primarily through a loss of vegetation and wildlife habitat. Direct losses to some species may occur from construction and other activities in newly developed areas. Urban development could increase runoff of storm water and pollutants from developed areas to non-developed areas. Development and increased residential population could affect the West Branch of Little Beaver Creek, and associated species.

Vegetation. The Mixed Use Alternative could result in a maximum disturbance of 76 acres during the 20-year analysis period. Impacts to landscaped areas from implementation of the Mixed Use Alternative would be similar to, although greater than, those discussed under the Proposed Action.

Wildlife. Direct impacts from implementation of the Mixed Use Alternative could occur through individual mortality as a result of construction or operational activities. Impacts to wildlife would be similar to, although greater than, those discussed under the Proposed Action. Since the vegetation on station has low biological value and ample areas with similar or higher value exist nearby, no adverse effects on wildlife populations are expected to occur through habitat loss.

Threatened and Endangered Species. Impacts to sensitive species would be similar to those discussed under the Proposed Action.

Sensitive Habitats. Impacts to sensitive habitats could include disturbance to potential wetlands. Development, including redevelopment or demolition of existing facilities, is proposed for all land use categories; portions of the residential and public facilities/recreation land use parcels contain potential wetlands.

Table 4.4-5 shows land use categories that contain potential wetlands and reveals that ample non-wetland acreage would be available to allow anticipated disturbance in each land use category. Given that practical infrastructure and facility siting alternatives to potential wetlands are available, it is anticipated that no wetlands would be directly impacted.

Table 4.4-5. Direct Impacts to Potential Wetland - Mixed Use Alternative

Land Use Category	Land Use Acreage	Disturbance Acreage	Wetland Acreage	Non-Wetland Acreage	Likely Wetland Impact
Residential	25	22	0.75	24.25	0
Public facilities/ recreation	17	2	1.25	15.75	0
Total	42	24	2.00	40.00	0

Note: The industrial, commercial, and federal land use categories do not contain potential wetlands and therefore are not applicable to this table.

As previously discussed, indirect impacts can occur from disturbance on land adjacent to wetlands resulting in increased or changed chemical and sedimentary runoff that degrades water quality.

Mitigation Measures. Mitigation measures would be similar to those discussed under the Proposed Action.

4.4.4.3 Industrial Alternative. Development under the Industrial Alternative could adversely affect biological resources in a manner similar to that described under the Proposed Action.

Vegetation. The Industrial Alternative could result in a maximum disturbance of 53 acres. Impacts from implementation of the Industrial Alternative would be similar to those discussed under the Proposed Action.

Wildlife. Direct impacts from implementation of the Industrial Alternative could occur through individual mortality as a result of construction or operational activities. Impacts to wildlife would be similar to those discussed under the Proposed Action.

Threatened and Endangered Species. Impacts to sensitive species would be similar to those discussed under the Proposed Action.

Sensitive Habitats. Impacts to sensitive habitats from implementation of the Industrial Alternative could include disturbance to potential wetlands. Development, including redevelopment or demolition of existing facilities, is proposed for all land use categories; however, only the public facilities/ recreation land use category contains potential wetlands.

Table 4.4-6 reveals that ample non-wetland acreage would be available in the public facilities/recreation land use category to allow anticipated disturbance. Given that practical infrastructure and facility siting alternatives to potential wetlands are available for disturbance, it is anticipated that no wetlands would be directly impacted.

Table 4.4-6. Direct Impacts to Potential Wetland - Industrial Alternative

Land Use Category	Land Use Acreage	Disturbance Acreage	Wetland Acreage	Non-Wetland Acreage	Likely Wetland Impact
Public facilities/ recreation	34	8	2	32	0
Total	34	8	2	32	0

Note: The industrial, industrial/warehouse, residential, commercial, and federal land use categories do not contain potential wetlands and therefore are not applicable to this table.

As previously discussed, indirect impacts can occur from disturbance on land adjacent to wetlands resulting in increased or changed chemical and sedimentary runoff that degrades water quality.

Mitigation Measures. Mitigation measures would be similar to those discussed under the Proposed Action.

4.4.4.4 No-Action Alternative. Maintenance of the station under caretaker status and continuing IRP remedial actions would have minimal adverse effects on biological resources. The overall long-term reduction in human activity may enhance wildlife species, and preclude impacts to vegetation and wildlife at Gentile AFS.

4.4.5 Cultural Resources

Potential impacts were assessed by (1) identifying types and possible locations of reuse activities that could directly or indirectly affect cultural resources, and (2) identifying the nature and potential significance of cultural resources in potentially affected areas. Pursuant to the NHPA, consultation, as directed by the Section 106 review process, has been initiated with the Ohio SHPO.

Historic properties under 36 CFR 800 are defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register." This term includes, for the purposes of these regulations, artifacts, records, and remains that are related to and located within such properties. The term "eligible for inclusion in the National Register" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria. Therefore, sites not yet evaluated are considered potentially eligible to the National Register and, as such, are afforded the same regulatory consideration as nominated historic properties.

As a federal agency, the Air Force is responsible for identifying any historic properties at Gentile AFS. This identification process includes not only field surveys and recording of cultural resources, but also evaluations to develop determinations of significance in terms of National Register criteria. (National Register criteria and related qualities of significance are discussed in Appendix E, Methods of Analysis.) Completion of this process results in a listing of historic properties subject to federal regulations regarding the treatment of cultural resources.

A Phase I Archaeological Investigation (U.S. Air Force, 1995d), and a Historic Buildings Inventory and Evaluation (U.S. Air Force, 1995c) have been conducted. No potentially significant historic resources were discovered as a result of these investigations. The SHPO has concurred with the findings presented in the studies and that the disposal of Gentile AFS will have no effect on cultural resources (see Appendix I).

4.4.5.1 Proposed Action. Because there are historic properties as defined in the NHPA on the station, reuse activities will not affect cultural resources. Furthermore, no concern has been expressed by Native Americans when consulted regarding property disposal; therefore, no impacts to traditional resources are anticipated.

4.4.5.2 Mixed Use Alternative. Effects to cultural resources from implementation of the Mixed Use Alternative would be the same as discussed under the Proposed Action.

4.4.5.3 Industrial Alternative. Effects to cultural resources from implementation of the Industrial Alternative would be the same as discussed under the Proposed Action.

4.4.5.4 No-Action Alternative. There would be no effect on cultural resources resulting from implementation of the No-Action Alternative; the property would remain under caretaker status.

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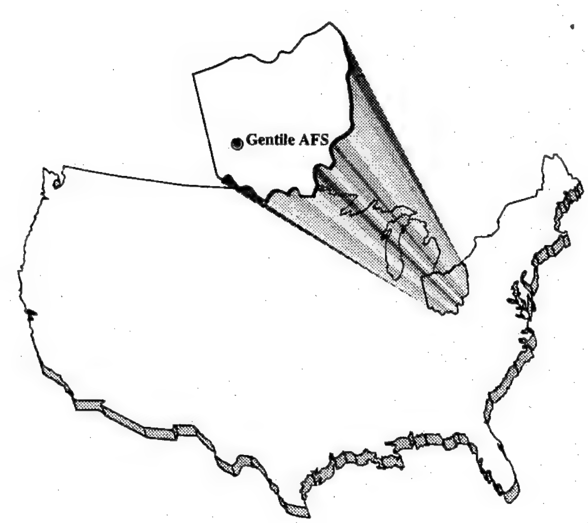


CHAPTER 5
CONSULTATION AND COORDINATION

5.0 CONSULTATION AND COORDINATION

The federal, state, and local agencies and private agencies/organizations that were contacted during the course of preparing this Environmental Impact Statement are listed below.

FEDERAL AGENCIES

Defense Logistics Agency
Environmental Protection Agency (Region V)
United States Department of Agriculture, Natural Resources Conservation Service
United States Department of the Interior, Bureau of Mines
United States Department of the Interior, Fish and Wildlife Service

STATE AGENCIES

Ohio Department of Natural Resources, Division of Natural Areas and Preserves
Ohio Environmental Protection Agency, Division of Air Quality Control
Ohio Environmental Protection Agency, Division of Emergency and Remedial Response
Ohio Environmental Protection Agency, Division of Solid and Hazardous Waste Management
Ohio Historic Preservation Office

OTHER GOVERNMENTAL ENTITIES

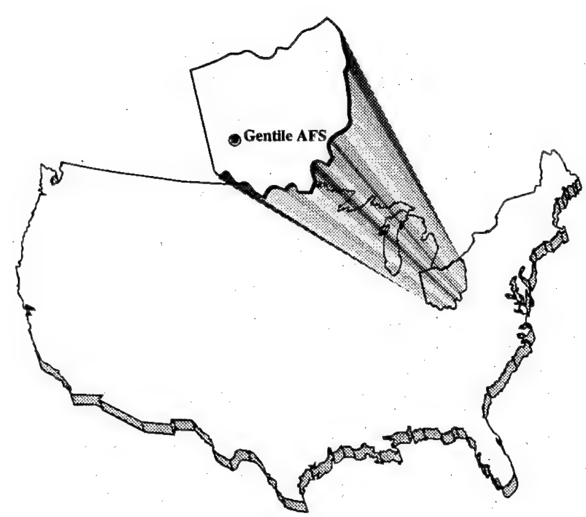
Absentee - Shawnee Executive Committee
Cherokee Nation of Oklahoma
Creek Nation of Oklahoma
Delaware Executive Committee
Eastern Shawnee Tribe of Oklahoma
Loyal Shawnee Tribe
Miami Tribe of Oklahoma
Ottawa Tribe of Oklahoma
Seneca - Cayuga Tribe of Oklahoma
United Keetoowah Band of Cherokee Indian
Wyandotte Tribe of Oklahoma

LOCAL/REGIONAL AGENCIES

City of Oakwood
City of Dayton
City of Kettering
Miami Valley Regional Planning Commission
Montgomery County Sanitary Engineering Department
Montgomery County Solid Waste Management Division
Montgomery County Air Pollution Control Agency

PRIVATE ORGANIZATIONS AND INDIVIDUALS

Dayton Area Chamber of Commerce
Dayton Power & Light Company
Miami Valley Research Park
Miller Vallentine Group
Greater Dayton Film Commission
DESC Reuse Committee



CHAPTER 6
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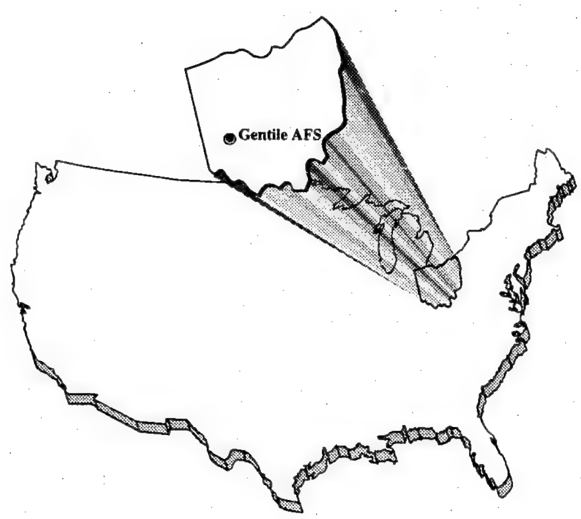

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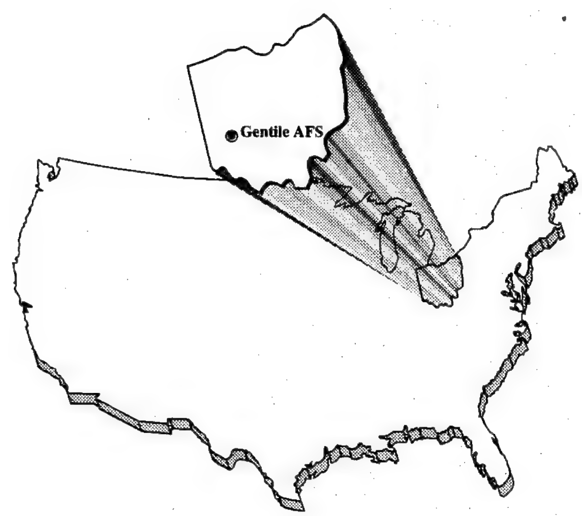

CHAPTER 8
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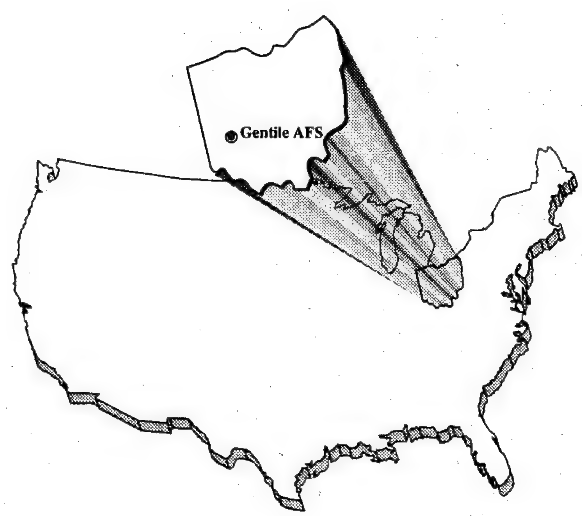

CHAPTER 9
PUBLIC COMMENTS AND RESPONSES

9.0 PUBLIC COMMENTS AND RESPONSES

INTRODUCTION

The Air Force has complied with the NEPA mandate of public participation in the EIAP primarily in two ways:

- A public hearing was held in Kettering, Ohio, on September 21, 1995, at which the Air Force presented the findings of the DEIS for disposal and reuse of Gentile AFS and invited public comments.
- The subject DEIS was made available for public review and comment in August, September, and October 1995.

Public comments received both verbally at the DEIS public meeting and in writing during the response period have been reviewed and are addressed by the Air Force in this section.

ORGANIZATION

This Public Comment and Response section is organized into several subsections, as follows:

- This Introduction, which describes the process, organization, and approach taken in addressing public comments
- A consolidated comment-response document
- An index of commentors
- A transcript of the public hearing
- Photocopies of all written comments received.

These sections are described below.

Comments received that are similar in nature or address similar concerns have been consolidated to focus on the issue of concern, and a response is provided that addresses all of the similar comments. Some comments simply state a fact or an opinion; for example, "the DEIS adequately assesses the impacts on [a resource area]." Such comments, although appreciated, do not require a specific response and are not called out herein. The comments and responses are grouped by area of concern, as follows:

1.0	Air Force Policy
2.0	Purpose and Need for Action
3.0	Alternatives Including the Proposed Action
4.0	Land Transfer/Disposal
5.0	Local Community
6.0	Land Use/Aesthetics
7.0	Transportation
8.0	Utilities
9.0	Hazardous Materials/Waste Management
10.0	Geology and Soils
11.0	Water Resources
12.0	Air Quality
13.0	Noise
14.0	Biological Resources
15.0	Cultural Resources
16.0	Socioeconomic Impact Analysis Study

Within each area, each consolidated comment-response is numbered sequentially. For example, under 8.0 Utilities, individual comments-responses are numbered 8.1, 8.2, etc. At the end of each numbered comment-response is a set of numbers that refer to the specific comment in the documents received that were combined into that consolidated comment. The numbers of the individual comments are indicated in parentheses (e.g., 6-8, 11-13, 15-6, 15-22). Comment 6-8, for example, refers to document 6, comment number 8. A reader who wishes to read the specific comment(s) received may turn to the photocopies of the documents included in this section. Below each comment number is the number of the consolidated comment in which the specific comment has been encompassed (e.g., 7.5). Thus, the reader may reference back and forth between the consolidated comments-responses and the specific comment documents as they were received.

It should be further noted that some comments in the documents received are not included in the consolidated comment-response document. These comments fall into two categories:

- Comments to which no response is required, as explained above

- Comments regarding the socioeconomic impact analysis study (SIAS).

Effects upon the physical or natural environment that may result from projected changes in certain socioeconomic factors that are associated with or caused by the disposal or reuse of the station are addressed within this EIS. Other socioeconomic issues such as the region's employment base; school budgets; municipal/state tax revenues; municipal land planning; medical care for military retirees and dependents; local governments and services; real estate; and economic effects on utility systems and specific businesses are beyond the scope of NEPA requirements. Analysis of impacts associated with these issues is provided in the SIAS; that public document will also support the station reuse decision-making process. The environmental impact analyses presented in this EIS are based on the results of the socioeconomic analyses described in detail in the SIAS. All comments pertaining solely to issues addressed in the SIAS were considered beyond the scope of this EIS, and so are not addressed in this comment and response section. However, those comments have been reviewed and responses have been provided to the commentors. Comments concerning socioeconomic issues addressed in the SIAS only are indicated with an S on the photocopies of the comment documents. Comments related to socioeconomic factors that are addressed in this EIS (e.g., population, employment) have been included in this comment-response section.

Finally, it should be emphasized that not only have responses to EIS comments been addressed in this comment-response section, as explained, but the text of the EIS itself has also been revised, as appropriate, to reflect the concerns expressed in the public comments.

The list of commentors includes the name of the commentor, the identifying document number that has been assigned to it, and the page number in this section on which the photocopy of the document is presented.

INDEX OF COMMENTORS

Page	Document #	Author	Title Agency
9-9	1	Transcript of Hearing	
9-17	2	Wayne R. Warren	Chief, REALM, Ohio Department of Natural Resources
9-17	3	Don Henne	Regional Environmental Officer, U.S. Department of the Interior
9-18	4	Laura J. Ripley	Federal Facilities Project Manager, U.S. Environmental Protection Agency, Region 5
9-19	5	Peter J. Horan	Assistant City Manager, City of Kettering
9-19	6	Timothy C. Hull	Remedial Action Coordinator, Ohio Environmental Protection Agency

1.0 AIR FORCE POLICY

No comments were received for this area of concern.

2.0 PURPOSE AND NEED FOR ACTION

No comments were received for this area of concern.

3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

3.1 Comment: Under the No-Action Alternative, impacts would decrease from preclosure conditions. Please modify Table S-2 and 2.7-2 to indicate decreases from preclosure conditions. (4-1, 4-5, 4-10)

Response: Tables S-2 and 2.7-2 reflect changes from closure baseline conditions that are projected to occur as a result of implementing a particular reuse alternative. Baseline conditions assumed for the purpose of analysis are the conditions projected at closure. Impacts associated with disposal and/or reuse activities may then be addressed by comparing projected conditions under various reuses to closure conditions. The No-Action Alternative is representative of closure baseline conditions. Preclosure conditions have not been added to the table; however, a discussion of preclosure and closure baseline conditions is provided in Chapter 3.0, and are used for comparison purposes for some of the resource analysis in Chapter 4.0.

3.2 Comment: In order to avoid confusion, please use "rehabilitation" of existing buildings rather than "retained". (4-6, 4-7, 4-8)

Response: The text has been revised accordingly (see Sections 2.2, 2.3.1, and 2.3.2).

3.3 Comment: Please include a column in Tables S-1 and 2.7-1 for the No-Action Alternative for a basis of comparison. (4-6)

Response: Tables S-1 and 2.7-1 have been revised accordingly. The information contained in the tables provides a comparison of influencing factors of each reuse alternative to the No-Action Alternative (closure baseline). A detailed comparison between closure baseline conditions and the other reuse alternatives for employment and population, traffic, and utilities is provided in Sections 4.2.1, 4.2.3, and 4.2.4., respectively.

3.4 Comment: Concern was noted with the use of "commercial" in the reuse alternatives. The intent of the reuse alternatives should be for office use rather than traditional commercial business uses. (5-1)

Response: Commercial land uses as shown and discussed in the EIS refer to commercial (office) uses.

3.5 Comment: The future location of the Montgomery County Board of Mental Retardation on Gentile AFS is uncertain. Reuse alternatives should be flexible in providing other uses for the space they currently occupy. (5-2)

Response: The Mixed Use Alternatives have been revised to show a commercial (office) use for the space currently utilized by the Montgomery County Board of Mental Retardation (see Section 2.3.1).

4.0 LAND TRANSFER/DISPOSAL

No comments were received for this area of concern.

5.0 LOCAL COMMUNITY

5.1 Comment: Please clarify whether or not DFAS is included in the closure baseline with caretaker activities. (4-12)

Response: DFAS is not included in the closure baseline conditions.

6.0 LAND USE/AESTHETICS

No comments were received for this area of concern.

7.0 TRANSPORTATION

No comments were received for this area of concern.

8.0 UTILITIES

8.1 Comment: Please indicate how much solid waste is produced and hauled off the station. (4-13)

Response: The EIS indicates 1.71 tons per day of solid waste were disposed of by Gentile AFS in 1993 (see Section 3.2.4.3).

8.2 Comment: The amount of electricity indicated for on-station and in the preclosure reference differ, please clarify. (4-14)

Response: The text has been revised accordingly. The correct amount is 86.8 MWH per day.

8.3 Comment: Please expand Table 4.2-8 to include utility consumption on the station in 1996. (4-18, 4-19, 4-20, 4-21)

Response: Table 4.2-8 shows projected utility demands within the ROI. On-station utility demands are discussed within the text for each utility system for each reuse alternative within Chapter 4.0. A separate table for on-station demand is not provided. On-station utility demands for each reuse alternative are also listed in Chapter 2.0.

9.0 HAZARDOUS MATERIALS/WASTE MANAGEMENT

9.1 Comment: It would be appropriate to state that compliance with RCRA would preclude significant impacts. (4-2, 4-22)

Response: The text has been added accordingly in the summary. Other sections of the EIS indicate that management in accordance with all applicable regulations would preclude unacceptable impacts.

9.2 Comment: It would be appropriate to mention that the IRP pursuant under the National Oil and Hazardous Substance Pollution Contingency Plan (NCP) will be consistent with CERCLA. (4-3, 4-23)

Response: A complete discussion of the NCP, IRP, and CERCLA is provided in Chapter 3.0 (see Section 3.3.3).

9.3 Comment: It would be appropriate to add that any associated contamination from leaking USTs will comply with the regulations set by Ohio's Bureau of Underground Storage Tanks. (4-4, 4-24)

Response: The text has been added accordingly (see Summary and Section 4.3.1.4). Compliance with regulations set by the Ohio Bureau of Underground Storage Tanks is also discussed in Section 3.3.4.

9.4 Comment: Define Restoration Advisory Board. (4-15)

Response: The Restoration Advisory Board and other related terms are defined in the text of the EIS for reader convenience.

9.5 Comment: Please define right-of-egress. (4-25)

Response: Text has been revised accordingly. The sentence now discusses the establishment of easements to access monitoring wells.

10.0 GEOLOGY AND SOILS

No comments were received for this area of concern.

11.0 WATER RESOURCES

11.1 Comment: The NPDES permit should be updated for sampling of additional contaminants. (4-16)

Response: The EIS states the current condition of the station's adherence to the NPDES permit. Updating the permit is beyond the scope of this EIS.

12.0 AIR QUALITY

12.1 Comment: Please insert a column for Class II standards in Table 3.4-4. (4-17)

Response: Class II standards shown in Table 3.4-3 are maximum allowable concentration increases; Table 3.4-4 shows what the maximum concentrations are by year in the area. Inserting the Class II standards in Table 3.4-4 would not provide a correct comparison.

13.0 NOISE

13.1 Comment: Depending on the type of industry, there is a potential for noise impacts. (4-11)

Response: Light manufacturing/assembly-type industrial activities are proposed under the reuse alternatives. Minimal noise effects are expected from these types of industrial uses. No heavy industrial activity is proposed under any of the reuse alternatives.

14.0 BIOLOGICAL RESOURCES

14.1 Comment: The USFWS response letter regarding additional investigations for the Indiana bat and eastern prairie fringed orchid should be included in an appendix. (4-26)

Response: The USFWS response letter is included in Appendix I.

14.2 Comment: A letter from the ODNR regarding threatened and endangered species should be obtained and included in an appendix. (4-27)

Response: A letter from ODNR dated January 4, 1994, is included in Appendix I. In addition, ODNR has reviewed the DEIS and indicated the project should not result in significant impacts to resources of concern to the department (see Chapter 9.0).

15.0 CULTURAL RESOURCES

No comments were received for this area of concern.

16.0 SOCIOECONOMIC IMPACT ANALYSIS STUDY

No comments were received for this area of concern.

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DEPARTMENT OF THE UNITED STATES AIR FORCE

PUBLIC HEARING
FOR THE DRAFT ENVIRONMENTAL IMPACT STATEMENT
ON THE DISPOSAL OF
GENTILE AIR FORCE STATION, OHIO

ORIGINAL

Thursday, September 21, 1995, 7:00 p.m.

At
City Council Chambers
Kettering Government Center
3600 Shroyer Road
Kettering, Ohio 45429

Colonel Michael B. McShane, Hearing Officer

Hearing Panel Members:
Ms. Patricia J. Woolfrey (AFBCA)
Mr. George Gauger (AFCEE)

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P R O C E E D I N G S
September 21, 1995

(Slide #1 - Public Hearing Title.)

THE HEARING OFFICER: Well, good evening, folks. It is the scheduled time to start so we're going to have to start. I want to thank you, first, for coming out tonight.

This is the Public Hearing on the Draft Environmental Impact Statement for the disposal of Gentile Air Force Station. I'm Colonel Mike McShane and I will be the presiding officer for tonight's meeting.

This Hearing is being held in accordance with the provisions of the National Environmental Policy Act and implementing regulations. The Act provides, requires federal agencies to analyze the potential environmental impacts of certain proposed actions and alternatives, and to consider the findings of those analyses in deciding how to proceed.

On September 14th, 1994, a scoping meeting was held here at the Council Chambers of the Kettering Government Center to receive your suggestions concerning what you felt should be covered

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in this Environmental Impact Statement or EIS. Since that meeting, the Air Force has examined the environmental concerns you raised, as well as others, and prepared the Draft EIS that is the subject of tonight's Hearing.

The purpose of tonight's Hearing is to receive your comments, suggestions, and criticisms of the Draft EIS. Those of you who have not yet had an opportunity to review the Draft EIS may want to read the summary of the major findings in the handout available at the door. Those findings will be also be addressed by panel members in their presentations.

Before introducing the members of the panel, I will explain my role at this Hearing. I am a full-time military judge for the Air Force and primarily serve as the circuit trial judge for court martial cases.

I am not here as an expert on this Draft EIS nor have I had any connection with its development. I am not here to act as a legal advisor to the Air Force representatives who will address these proposals. My purpose is ensure that we have a fair, orderly Hearing, and that all who wish to be heard have a fair chance to speak.

Now, I will introduce the members of

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the Public Hearing Panel. To my left is Patricia Woolfrey representing the Air Force Base Conversion Agency. She will describe the Air Force base disposal process. To her left is the George Gauger. Mr. Gauger is the EIS program manager from the Environmental Management Division of the Air Force Center for Environmental Excellence located at Brooks Air Force Base, Texas. He will brief you on the environmental impact analysis process and summarize the results reported in the Draft EIS.

This informal meeting is intended to provide a continuing public forum for two-way communication about the Draft EIS with a view to improving the overall decision-making process.

You will notice I said two-way communication. In the first part of this Hearing process, the most knowledgeable folks will brief you on details of the actions and the anticipated environmental impacts.

The second part of the process will give you an opportunity to provide information and make statements for the record. This input ensures that the decision-makers may benefit from your knowledge of the local area and any adverse environmental effects you think may result from the

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proposed action or alternatives. Also, if you have any questions regarding the environmental impact analysis process or the environmental impacts presented in the Draft EIS, please ask our panel members, and they will answer to the extent they can. If your question is a technical one which requires further research and cannot be answered tonight, the Air Force will make sure your question will be answered either in the Final EIS itself or in a separate comment and response section.

Tonight's Hearing is designed to give you an opportunity to comment on the adequacy of the EIS. Keep in mind that the EIS is simply intended to ensure that future decision-makers will be fully apprised of the environmental impacts associated with the various reuse alternatives before they decide on a course of action. Consequently, comments tonight on issues unrelated to the Environmental Impact Statement are really beyond the scope of this Hearing and should not be addressed.

When you came in tonight, you saw the attendance cards on the table there and you were asked to indicate if you wish to speak tonight. After Mrs. Woolfrey and Mr. Gauger have finished their presentations, we will have a short recess and we will

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collect all of the cards.

Following the recess, I will recognize any elected officials that want to speak, and then I will call on the members of the public who desire to speak. For those of you who did not indicate on your card a desire to speak but may later change your minds, just let us know, and you can fill out another card indicating you want to speak and that will be given to me and I will make sure that you get called on.

(Slide #2 - Address.)

Now if you don't feel like standing up here at the podium tonight and making a statement, you do have until October 16th of this year to submit a copy of your statement for the Air Force's consideration prior to publishing the Final Environmental Impact Statement. There are comment sheets available over there. They look like this (indicating). You may use those in providing your comments. The address shown on the slide is also in the handout and any comments you [sic] receive will be given equal consideration to oral comments that are made here tonight.

Please don't be shy or hesitate to make a statement tonight. I want to make sure that all who

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wish to speak have a fair chance to be heard.

We do have a court reporter here who is taking down verbatim everything that is said. That verbatim record will become part of the Final Environmental Impact Statement. The reporter will be able to make a complete record only if she can hear and understand what you say.

With that in mind, please help me enforce the following ground rules: Please speak only after I recognize you and please address your remarks to me. If you have a written statement, you may place it on the table there next to the podium or you can read it out loud or you can do both.

Second, please speak clearly and slowly into the microphone starting with your name, address, and the capacity in which you appear. For example, if you are a public official, tell us what office you hold, or if you are a designated representative of a group that wants to speak here tonight, tell us your organization, or if you're just a concerned citizen that wants to talk about this, let us know that. This will help our court reporter prepare a professional transcript of the proceedings.

Third, each person will be recognized for about five minutes. That includes public

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officials, designated spokespersons, and private individuals. Certainly, as I see the crowd in the room at least tonight, if somebody has more than five minutes worth to say, I think we can afford a little extra time for anybody who has more than five minutes to say.

Fourth, please honor any requests that I make for you to stop speaking.

Fifth, please do not speak while another person is speaking. Only one person will be recognized at a time. And, finally, I'm sure this is a no smoking area, so please refrain from any smoking out there.

At this point, I would like to introduce to you Patricia Woolfrey, who will describe the Air Force base disposal process to you.

(Slide #3 - Disposal Process Title.)

MS. WOOLFREY: Thank you, Colonel McShane, and welcome everybody. Thank you for coming tonight.

I'm Patricia Woolfrey and I work for the Air Force Base Conversion Agency. That is an office that was created strictly to dispose and manage the cleanup of Air Force bases that have been closed

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under the authority of the Base Closure and Realignment laws.

(Slide #4 - Disposal Process Overview.)

In discussing the Air Force's proposed action of disposing of Gentile Air Force Station, I'm going to cover four topics. First is disposal planning. Second is the disposal objective used by the Air Force to guide its planning. Third is disposal considerations we will use to arrive at a decision. And, lastly, is the Air Force decision itself, that is, what actions the Air Force will take based on the findings in the EIS and other considerations.

(Slide #5 - Disposal Planning.)

The Secretary of the Air Force has been delegated the authority to act as the federal disposal agent under the 1988 Base Closure and Realignment Act and the Defense Base Closure and Realignment Act of 1990, to utilize or dispose of the federal property that makes up the Air Force's closing installations.

Usually this responsibility rests with the administrator of the General Services Administration or GSA, but despite this change, the

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traditional statutes for the disposal of federal property are still in effect.

The Air Force must adhere to those laws, as well as GSA regulations, that are in place at the time of the passage of the closure acts. The Air Force has also issued additional policies and procedures required to implement our delegated authority.

Another provision of the 1988 and 1990 Acts requires us to consult with the state governor, the heads of local governments for the purpose of considering any plan for the use of such property by the local community concerned. We are meeting this consultation requirement by working with the DESC Reuse Committee, who is doing an excellent job by the way. This is one of the Air Force's most successful closures and it's due to the hard work that the Committee has done. It has been a great pleasure to work with them.

Finally, our planning recognizes that the Secretary of the Air Force has full discretion in deciding how the Air Force will dispose of the property.

(Slide #6 - Disposal Objectives.)

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The Air Force recognizes the significant economic impact that closures have on the local communities, and it is the Air Force's goal to complete closures as quickly and as efficiently as possible. The federal government and the Air Force are committed to assisting communities in their efforts to replace the departing military activities with viable public and private enterprises, which, of course, relates to the number of jobs.

We are in the process of developing a comprehensive disposal plan that attempts to balance the needs of the community, the environmental consequences of our disposal decision, and the needs of the Air Force.

However, Congress has only provided start-up capital for implementation of the realignments and closures. The revenues from the property sales will be used to offset the funding shortfall. The Air Force also supports the use of interim leases and early transfer of property to bring jobs back into the community as quickly as possible.

(Slide #7 - Disposal Considerations.)

The disposal of property is accomplished in a three-part planning process. The

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first part is the Air Force's preparation of an environmental impact statement, the EIS that we're talking about this evening. This analyzes the various reasonable disposal alternatives for the Station.

The second is the community's plan for the future use of the property; and, finally, the Air Force's disposal plan which analyzes the various disposal options. The disposal plan is based on a thorough real estate analysis of the Station and the region, results from the EIS, and interest shown by other federal agencies and inputs from the community reuse organization.

The EIS process culminates with the issuance of a record of decision, known in the Air Force as a ROD, which documents the decision for the disposal of the real property -- the EIS is not a disposal decision -- and specifies what environmental mitigations may be needed to protect human health and the environment as a result of the disposal decision selected.

(Slide #8 - Disposal Decisions.)

Under current law, other federal agencies and homeless assistance providers must be given priority consideration in the use and

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acquisition of excess Station real property. It is Air Force policy to inform the local community representatives of any expressed interest from federal agencies or homeless assistance providers. This screening has been done, and there has been no interest expressed at this time. We encourage all parties to communicate openly with each other during the disposal planning process.

It should be noted that federal agencies generally work with the community to solicit support for their proposals to acquire property. Moreover, it has been the Air Force's experience that such uses for a portion of the property and facilities can be accommodated within the overall community's planned future use for the entire Station.

For instance, in the case of Gentile, we have DFAS, which is probably moving into a portion of it, which is completely supported by the DESC Reuse Committee. It brings in additional jobs as well.

In general, the disposal options are federal agency transfers, public benefit conveyance to states and eligible nonprofit institutions, negotiated sales to public agencies, competitive sales to the general public, and economic development conveyances.

The laws and regulations governing

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disposal do not establish a rigid priority for disposal but provide the federal property interest or, excuse me, the ability to ensure that all federal real property interests are disposed of in an efficient and effective manner. The Secretary of the Air Force will decide on the actual disposal plan. Final disposal decisions will be documented in the record of decision.

The last subject to address is that of environmental cleanup. The Air Force is committed to cleaning up all areas contaminated by past Station activities and protecting the health and safety of the public and any future owners of Gentile Air Force Station property.

Cleanup activities are continuing and additional studies are underway that will fully characterize contamination of all other sites to determine the best means to clean them up. It should be understood that if contaminated areas are not ready for disposal at the time of closure, the Air Force will retain ownership until the property is cleaned up. And ownership does not preclude the possibility of long-term leases so that the local reuse committee can have control of the property for those leases.

Other areas may require easements and

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rights of entry to permit long-term groundwater monitoring and treatment. Nevertheless, despite the Air Force's commitments to cleaning up all past contaminated areas and protecting the public, we do not expect any cleanup activities to delay the reuse of uncontaminated property at Gentile Air Force Station.

Thank you for the opportunity to meet with you this evening. Now I'll turn the meeting back over to Colonel McShane.

THE HEARING OFFICER: Thank you, Ms. Woolfrey.

Now I present George Gauger, who will brief us on the environmental impact analysis process.

(Slide #9 - Environmental Impact Analysis Process.)

MR. GAUGER: Good evening. I'm George Gauger. Thank you, Colonel McShane.

I'm George Gauger from the Environmental Management Division at the Air Force Center for Environmental Excellence, located at Brooks Air Force Base, San Antonio, Texas.

Our organization is conducting the environmental impact analysis process for the disposal

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of Gentile Air Force Station and the other major installations mandated to close during Round III of the Base Closure and Realignment Act.

Tonight I will present the schedule for this environmental impact analysis process and show how the public comment period fits into this schedule. I'll also discuss the scope of the study and the relationship between the Environmental Impact Statement and the socioeconomic study, and I will also present the results of our analysis by resource category.

This environmental effort was begun in October of 1993 with a Notice of Intent to prepare an environmental impact statement, or EIS, for Gentile.

A scoping meeting was held here on September 14th, 1994, to receive public input on the scope of issues to be addressed in the environmental impact statement and to identify reuse alternatives and issues related to the property disposal.

Our office received a comprehensive reuse plan from the DESC Reuse Committee in March of 1995. I might add that this plan that we received from the community was not only the best plan that we received, but way ahead of schedule of any other bases that we have dealt with to date.

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The DESC Reuse Committee proposal consists of a comprehensive plan for development of the Station for industrial, commercial, public facilities, recreation, and federal use. The primary focus is on industrial reuse of the facilities, including light manufacturing and warehousing.

The alternatives developed by the Air Force include a mixed use alternative that features industrial, commercial, and residential development, and an industrial alternative that features industrial and public facilities/recreation development.

After scoping, we collected the necessary data and conducted the environmental analysis. The Draft EIS was filed with the U.S. Environmental Protection Agency on August 25th, 1995.

(Slide #10 - Public Comment Period and Address.)

In addition to tonight's Hearing, written comments on the Draft EIS will continue to be accepted at this address until October 16th, 1995. After the comment period is over, we will evaluate all comments, both written and verbal, and perform additional analysis or change the EIS where necessary. Again, as in the scoping process, equal consideration will be given to all comments whether

they are presented here tonight or mailed to, or mailed to us. Sorry.

Once the review process is complete, we will produce a Final Environmental Impact Statement, scheduled for completion in December 1995, and mail it to all those on the original distribution list for the Draft EIS. If you are not on our mailing list, you can request a copy by writing to this address.

The Final EIS will include comments received during the public review period and our response to those comments. I might add that when you receive the Final Environmental Impact Statement, there will be a section that will address all comments that have been submitted to us.

If appropriate, we will group comments into categories and respond accordingly. Frequently where there are numerous comments that are received, if they are similar, we will, if at all possible, in the same categories, we will group them and respond to them as one response.

The EIS will serve as input for the record of decision, which will document the decision by the Air Force. As you just heard from Ms. Woolfrey, other studies and consideration of issues, besides those addressed in the EIS, will enter into

the final disposal decision. We expect to accomplish the record of decision early next year.

The Draft EIS was prepared to comply with the National Environmental Policy Act, or NEPA, and the Council on Environmental Quality Regulations. Efforts were made to reduce needless bulk, write in plain language, focus only on those issues that are clearly related to the environment, and to integrate with other documents required as part of the decision-making process. Reuse alternatives that were developed during the scoping process were individually analyzed to provide an environmental comparison.

This analysis focuses on impacts to the natural environment that may occur as a direct result of the Station disposal or indirectly through changes in the community. Resources evaluated are geology and soils, water, both surface and groundwater, air quality, biological resources, and cultural resources.

Indirect changes to the community that provide measures against which environmental impacts could be analyzed include changes to the local population, land use and aesthetics, transportation, and community utility services.

In addition, issues related to the

current and future use, storage and management of hazardous materials are discussed in the document. These issues include hazardous materials and wastes, the Air Force's Installation Restoration Program, storage tanks, asbestos, pesticides, polychlorinated biphenyls or PCBs, radon, medical or biohazardous waste management, ordnance, and lead-based paint.

If our analysis showed that a reuse alternative would result in adverse environmental impacts, potential mitigation measures were identified and included in the document.

As I mentioned earlier, this Draft EIS focuses on the impacts to a natural environment that would occur either directly or indirectly from the disposal of Gentile Air Force Station. It also addresses socioeconomic factors where there is a relationship between Station disposal and changes to socioeconomic conditions that would result in impacts to the natural environment.

Our organization has recently produced a separate socioeconomic study that is not required under the National Environmental Policy Act. It describes in detail how disposal of Gentile Air Force Station may affect the economies of the surrounding areas.

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Specifically the socioeconomic study addresses the following factors for each of the reuse alternatives: Population, employment, housing, public finance, education, government services, police and fire protection, medical services, transportation, and utilities. Copies of this document will be provided to key federal, state, and local officials and be available for review at libraries in the area. The document is now in final review at Headquarters U.S. Air Force and will be forwarded to key personnel when the document is ready.

Now I will present an overview of the proposed action and alternatives that have been analyzed. Afterwards, I will present a synopsis of the results of our analysis.

Please note that the title of each alternative is presented only to give the reader a general idea of the redevelopment concepts. However, there may be numerous plans and activities that are not included in the title.

Each of the alternatives analyzed assumed that certain portions of the Station would be retained for continued use by the federal government. Under the proposed action, the areas to be retained will be used by the Defense Finance and Accounting

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Service, or DFAS, and other federal offices and warehouse uses, and are presented as the dark grey areas on the land use maps shown for each alternative. Under the reuse alternatives, DFAS would be the only retained federal use area.

(Slides #11, 12, 12A - Proposed Action.)

This figure shows the land uses for the proposed action. The proposed action includes industrial and commercial uses, with the remainder of the Station being equally developed for public facilities, recreation, and federal land uses that include DFAS and other entities.

I would like to point out that the environmental, the National Environmental Policy Act requires that we look at a proposed action and the alternatives. This we have done in the alternatives that are being presented to you.

Industrial areas are depicted in light grey. The commercial area is shown in red, and the public facilities and recreation in green. As I mentioned before, the areas to be retained by the federal government are shown in dark grey.

(Slides #13 and 14 - Mixed Use Alternative.)

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This map shows land uses for the mixed use alternative. The focus of this alternative is on industrial, commercial office, and public facilities/recreation uses. The remaining portions of the Station property would be developed for residential and DFAS uses.

Industrial areas are shown in light grey. Commercial areas are in red, residential in yellow, public facilities/recreation areas are in green, and the area retained for DFAS is dark grey.

(Slides #15 and #16 - Industrial Alternative.)

This map shows the land uses for the industrial alternative. The focus of this alternative is on industrial and public facilities/recreation uses. Other uses, associated with this alternative to a lesser degree, include commercial office, residential, and DFAS uses.

Industrial areas are shown in light grey, public facilities/recreation are in green, commercial areas are in red, residential in yellow, and DFAS in dark grey.

(Slide #17 - No Action Alternative.)

As required by the National

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Environmental Policy Act, a no-action alternative was evaluated. Under the no-action alternative, the conditions of the Station at the time of closure would remain unchanged in the long term. The property would remain under caretaker status with no civilian reuse. The caretaker activities would consist of resource protection, grounds maintenance, existing utilities operations as necessary, and building care.

I will now discuss the results of our analysis which are presented in the Draft Environmental Impact Statement. The proposed actions and all alternatives were analyzed to the same level of detail. The baseline used for analysis is Gentile Air Force Station at closure in December of 1996. The following slides show a comparison of impacts among the reuse alternatives.

(Slide #18 - Resources Analyzed.)

The EIS analyzed impacts to various resources, broadly grouped into categories of local community, hazardous materials and hazardous materials waste management, and the natural environment.

(Slide #19 - Resources with No or Minimal Impacts.)

In several of these resource areas, the

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analysis indicated that there would be no or minimal impact. These resources are highlighted on this slide, and I will summarize the analysis results briefly.

There would be changes to land uses and the visual character of the Station. However, new landscaping and proposed improvements under the community reuse plan would visually enhance and unify the area.

Utility demand under the reuse would increase from closure conditions but would be within the capacity of the regional systems.

Hazardous materials and waste management as a result of reuse activities would be the responsibility of the new users and would be subject to applicable regulations. Storage tanks not planned for use, for reuse would be removed. Asbestos in structures would be removed if it poses a health threat, or otherwise it would be managed in place in accordance with federal regulations and guidelines.

Pesticide usage under reuse would be subject to federal and state regulations. All polychlorinated biphenyls will be removed prior to Station closure. No medical and biohazardous wastes would be generated. The remaining lead from the small

Document 1

arms firing range will be removed prior to Station closure. Lead-based paint, which may exist on facilities, will be managed in accordance with applicable federal and state regulations.

Erosion effects on soils from construction would be minor because of the type of soils at Gentile Air Force Station and the relatively flat terrain that you have here. The abundant groundwater supplies within the region would not be affected by reuse, and increases in air emissions would not affect the region's attainments status. There are no threatened or endangered species at the Station, and there are only two acres of wetland areas which can be avoided. Overall impacts to biological resources from proposed reuse would be minimal, and no cultural resources were identified.

(Slide #20 - Resources with Potential for Impacts.)

Environmental analysis has indicated the potential for impacts to the remaining resources, and I will speak about each of these in more detail.

(Slide #21 - Employment.)

This graph shows the potential or possible increase in employment in Clark, Greene Miami, and Montgomery counties due solely to

Document 1

reuse-related activities projected through the year 2016. These increases include the direct generated, the direct jobs generated on site and the secondary jobs created within the region. Positive economic benefits would result from the increased regional earnings, income, and spending compared to closure baseline conditions.

Depending on the alternative implemented, reuse activities at the Station would result in an additional 9,650 -- 9,750 jobs to 14,682 direct and secondary jobs in the region by 2016. This increase translates to an increased growth in the local job market of about 0.6 to 0.7 percent annually between closure and the year 2016.

(Slide #22 - Population.)

Population increases are expected under the reuse alternatives as workers and their families move into the region to fill some of the jobs created by reuse. Depending on the alternatives selected, 772 to 1187 people would enter the region by 2016. This represents an annual, average annual increase in the region's projected population growth of 0.3 percent from closure to 2016.

(Slide #23 - Traffic.)

The development of Gentile Air Force

Document 1

Station would affect local and regional transportation networks. Reuse of the Station would increase traffic on local roads near the Station, particularly Wilmington Pike along the segment between Smithville Road to Dorothy Lane.

The chart shows the average number of daily trips projected to be generated by each of the reuse alternatives. The number of daily trips to and from the site due to reuse would range from approximately 9,400 under the industrial alternative to 16,950 under the proposed action by the year 2016. At closure in 1996, the number of daily trips generated from caretaker activities would be approximately 50.

Most roadways would generally maintain acceptable levels of service under each reuse alternative; however, traffic volumes on the segment of Wilmington Pike could exceed the road's capacity by the year 2001 under all of the reuse alternatives.

The redevelopment plans would incorporate appropriate transportation planning measures to accommodate the reuse activities and provide acceptable levels of service within the on-station road network and from the access points to the local network.

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(Slide #24 - Hazardous Materials/Waste Management.)

The Air Force is conducting investigations to identify, characterize, and remediate environmental contamination at Gentile Air Force Station that has resulted from past actions. This comprehensive effort is called the Installation Restoration Program or IRP.

The IRP includes procedures for identifying sites of contamination, determining appropriate remediation techniques, and remediation and monitoring as necessary to ensure that the site is clean. The proposed plan for cleanup of a site is distributed to relevant regulatory agencies for review and comment. A schedule is prepared for each part of the process at each site.

Congress has committed funding for the Installation Restoration Program, and the process is in progress at Gentile Air Force Station. The Air Force makes information about the IRP available to the public through published information available at the local library, as well as through sources such as the Station Public Affairs Office, the Base Conversion Agency Operating Location, and public meetings and notices.

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All cleanup activities will be accomplished in accordance with applicable federal and state laws and regulations. Remedial actions and monitoring will continue after Station closure, and long-term access to certain sites may be required to ensure the success of the remediation efforts.

The Air Force will take all necessary actions for environmental cleanup of the Station to protect public health and the environment. Deeds of property transfer will contain this assurance, and all property transfers will be conducted in compliance with the Comprehensive Environmental Response, Compensation, and Liability Act, otherwise known as CERCLA.

In order to comply with federal disclosure laws regarding the disposal of property, the Air Force has conducted an environmental baseline survey at Gentile Air Force Station. This effort identifies areas of the Station that are uncontaminated, as well as environmental conditions of the property, such as identification of contaminated sites that require remediation and the president, presence of asbestos-containing materials.

In closing, I remind you that the study is in draft stage. Our goal is to provide the Air

Document 1

Force decision-makers with accurate information on the environmental consequences of this proposal. To do this, we are soliciting your comments tonight on this Draft EIS that you have received. This information will support informed Air Force decision-making.

I would now like to turn the meeting back over to Colonel McShane.

THE HEARING OFFICER: And, thank you, Mr. Gauger.

After we take a, just a real brief recess so that I can get with the folks here and figure out who it is that wants to speak, we will get back to the main portion of the meeting which is the public comments period. We will take a brief recess.

(A brief recess was taken.)

THE HEARING OFFICER: Okay. Folks, if we can get everybody back here, I would like to start up again.

I've retrieved the attendance record cards that you all filled out, and, interestingly enough, none of them have a check mark to indicate that anybody wants to make a statement.

Let me just run through here. I've got one from Steve Busemann. Did you wish to say anything at all tonight, Steve?

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MR. BUSEMANN: I really don't have anything to make a statement. But let me just say as the Chairman of the Reuse Committee and also the City Manager of the city of Kettering, we have been real pleased with the cooperation that we've received.

As a matter of fact, I think that the Environmental Impact Statement is very well done. It is a little intimidating when you first pick it up, but after you really get into it and start breaking it down into the different reuse alternatives, it all kind of falls together and makes a lot of sense.

I think the reuse alternatives are consistent with what we've been looking at, and I think everybody realizes that no one alternative is going to be what actually happens out there, but a hybrid of the various different alternatives. And that's what we anticipated and I understand that to be consistent with the terms of the reuse plan as well. So it sounds like something we can work on. I appreciate it very much.

THE HEARING OFFICER: Thank you. Let me next call on Peter Boran. Did you have any comments you want to make?

MR. BORAN: No, sir, I don't.

THE HEARING OFFICER: Thank you.

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James Austin.

MR. AUSTIN: No comments.

THE HEARING OFFICER: All right. Thank you. Elaine Ross.

MS. ROSS: No, thank you.

THE HEARING OFFICER: Dan Dollarhide.

MR. DOLLARHIDE: No comments.

THE HEARING OFFICER: Paul Rizzo.

MR. RIZZO: No, sir.

THE HEARING OFFICER: Robert Lally.

MR. LALLY: No, sir.

THE HEARING OFFICER: There is still a few more folks out there that maybe didn't fill out an attendance card, but anybody else who is here wish to make any comment on the Environmental Impact Statement? I don't see any.

Let me do remind you that anybody who does want to provide written statements, there are the comments sheets up there, and you can certainly fill those out now or at any time up to the 16th of October.

If there are no further comments, I'm going to close the Hearing. Thank you for attending.

(The Hearing was closed at or about 7:56 p.m.)

DAYTON, OHIO (513) 461-3288 DONNA JEAN FLOOK, RPR, CSR

Document 1

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C E R T I F I C A T E

STATE OF OHIO
SS:
COUNTY OF MONTGOMERY

I, Donna Jean Flook, the undersigned, a Registered Professional Reporter, and Notary Public within and for the State of Ohio, do hereby certify that the foregoing is a true and correct transcript to the best of my ability of my notes taken in stenotype in the proceedings had at the time and place set forth in the caption hereof, and thereafter transcribed by the undersigned; that the undersigned was neither a relative of nor attorney for any of the participants, and has no interest whatever in the proceedings.

IN WITNESS WHEREOF, I herein set my hand and official seal of office at Dayton, Ohio this the 23rd day of September, 1995.

Donna Jean Flook
Registered Professional Reporter
Notary Public, State of Ohio
My commission expires August 29, 1998.

DAYTON, OHIO (513) 461-3288 DONNA JEAN FLOOK, RPR, CSR

Document 2

OHIO Department of Natural Resources

George V. Voinovich • Governor
Donald C. Anderson • Director

September 22, 1995

Mr. George Gauger
Environmental Conservation and Planning Directorate
Headquarters Air Force Center for Environmental Excellence
3207 North Rd.
Brooks AFB, TX 78235-5363

Re: Draft EIS;
Disposal of Gentile Air Force Station, Ohio

Dear Mr. Gauger:

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced draft environmental impact statement. These comments were generated by an inter-disciplinary review in consultation with the Division of Wildlife and other divisions within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Environmental Policy Act and other applicable laws and regulations.

Provided the project is implemented as described in the draft EIS, it should not result in significant adverse impacts to resources of concern to the Department.

We appreciate the opportunity to provide these comments. If you have any questions, please contact Ms. Kim Baker (614/265-6411) of the Environmental Program of this office.

Sincerely,

Wayne R. Warren, Chief
REALM

WRW/kab

cc: Wildlife Environmental Section
Pat Jones, DNAP
Dick Bartz, Water

Fountain Square • Columbus, Ohio 43224-1387

Document 3

United States Department of the Interior

OFFICE OF THE SECRETARY

ER-95/646 October 10, 1995

Mr. George N. Gauger
Environmental Conservation
and Planning Directorate
AFCEE/EC
3207 North Road
Brooks AFB, Texas 78235-5363

Dear Mr. Gauger:

The Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (EIS) for Disposal and Reuse of Gentile Air Force Station, Montgomery County, Ohio. The document adequately addresses the concerns of the Department regarding fish and wildlife resources as well as species protected by the Endangered Species Act. We have no comment on the adequacy of other resource discussions presented in the Draft EIS.

We appreciate the opportunity to provide these comments.

Sincerely,

Don Henne
Regional Environmental Officer

ER95-646

Document 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF
HSF-5J

Tuesday, 17 October 1995

Mr. George Gauger
AFCEE-EC, 8106 Chennault Road
Building 1155
Brooks AFB, Texas 78235-5318

Subject: ***The Draft Environmental Impact Statement (DEIS) for the Disposal of Gentile Air Force Station in Montgomery County, Ohio.***

Dear Mr. Gauger:

On September 6, 1995, U.S. Environmental Protection Agency (EPA) received a copy of the DEIS for the disposal of Gentile Air Force Station. The DEIS has been prepared to provide information on the potential environmental consequences of the disposal and reasonable alternatives for reuse of the station. Based upon this review, EPA has the following comments:

1 | 3.1 | 1) **Pages S-7 to S-15, Table S-2, No Action Alternative** - Overall, in the no action alternative scenario, it would appear that the impacts on this facility would decrease or the situation improved in most instances since the station would no longer operate as it had previously. For example, transportation to a vacant land area would probably decrease in daily vehicular trips. Please modify this table appropriately and change the text when referencing the no-action alternative.

2 | 9.1 | **Pages S-8 to S-9, Hazardous Materials and Hazardous Waste Management** - As a minor comment, it would be appropriate to state that compliance with the Resource Conservation Recovery Act (RCRA) would preclude significant impacts.

3 | 9.2 | **Page S-9, Installation Restoration Program** - As a minor comment, it would be appropriate to mention that this program pursuant under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) will be consistent with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

4 | 9.3 | **Page S-10, Storage Tanks** - It would be appropriate to add that any associated contamination from leaking underground storage tanks will comply with the regulations set by Ohio's Bureau of Underground Storage Tanks.

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5 | 3.1 | 2) **Page S-21, No-Action Alternative, Local Community** - If the No-Action Alternative would be under caretaker maintenance generating 5 direct and 10 secondary jobs and the jobs to be maintained by DFAS, this level of employment would still decrease from current levels. Although the ROI employment may increase, this decrease in employment at the station should be noted. In addition, effects on utilities, road, or air would also decrease.

6 | 3.2 | 3) **Page 2-5, Section 2.2, Description of Proposed Action** - The second paragraph utilizes the word "retention". In order to avoid confusion, it may be more appropriate to use rehabilitation of several existing buildings.

7 | 3.2 | 4) **Page 2-9, Section 2.3.1, Description of Mixed Use Alternative** - The first complete paragraph utilizes the word "retention". In order to avoid confusion, it may be more appropriate to use rehabilitation of several existing buildings.

8 | 3.2 | 5) **Page 2-9, Section 2.3.2, Description of Industrial Alternative** - The third paragraph in this section utilizes the word "retention". In order to avoid confusion, it may be more appropriate to use rehabilitation of several existing buildings.

9 | 3.3 | 6) **Page 2-17, Table 2.7-1** - This table is the summary of reuse-related factors as compared to the no-action alternative. Please include a column for the no-action numbers for a basis of comparison.

10 | 3.1 | 7) **Pages 2-18 to 2-26, Table 2.7-2** - See comment #1 and modify this table accordingly.

11 | 13.1 | 8) **Page 3-1, Section 3.1, Introduction** - The first paragraph states that noise impacts would be minimal. Depending upon the type of industry that could occupy the station, there is a potential for noise impacts for the industrial scenario.

12 | 5.1 | 9) **Page 3-6, Section 3.2.1, Community Setting** - In the second complete paragraph on this page, it is stated that the total site related employment is expected to decrease to 15 direct and secondary jobs associated with the caretaker activities. Does this include DFAS operations?

13 | 8.1 | 10) **Page 3-23, Section 3.2.4.3, Solid Waste, On Station** - This section discusses the amount of tons of solid waste that was recycled; however, it does not discuss how much solid waste is produced and hauled off the station. Please elaborate.

14 | 8.2 | 11) **Page 3-24, Section 3.2.4.4, Energy, Electricity** - The amount of electricity on station and in the preclosure reference differ. Please correct.

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15 | 9.4 | 12) **Page 3-40, Top of Page** - This is the first reference to the acronym RAB. This should be defined here.

16 | 11.1 | 13) **Page 3-20, Section 3.2.4.2, Water Quality** - This section states that the creek water is regulated by the NPDES permit. The NPDES permit is not sampled for all of the parameters that have been found in the creek water, for example, semivolatile compounds are not parameters for this permit. This permit should be updated.

17 | 12.1 | 14) **Pages 3-64 to 3-65, Tables 3.4-3 and 3.4-4** - For comparison purposes, please insert a column with Class II standards in Table 3.4-4.

18 | 8.3 | 15) **Pages 4-19 to 4-21, Section 4.2.4.1, Proposed Action, Water Demand, Wastewater, Solid Waste, Energy** - There seems to be a disconnect for the statement that the Proposed Action would increase consumption on station from MGD, tons per day, MWH per day, and MMCF per day at closure in 1996 to similar units per day in 2016. Please expand Table 4.2-6 to include utility consumption on the station in 1996.

19 | 8.3 | 16) **Pages 4-21 to 4-22, Section 4.2.4.2, Mixed Use Alternative, Water Demand, Wastewater, Solid Waste, Energy** - There seems to be a disconnect for the statement that the Mixed Use Alternative would increase consumption on station from MGD, tons per day, MWH per day, and MMCF per day at closure in 1996 to similar units per day in 2016. Please expand Table 4.2-6 to include utility consumption on the station in 1996.

20 | 8.3 | 17) **Pages 4-22 to 4-24, Section 4.2.4.3, Industrial Alternative, Water Demand, Wastewater, Solid Waste, Energy** - There seems to be a disconnect for the statement that the Industrial Alternative would increase consumption on station from MGD, tons per day, MWH per day, and MMCF per day at closure in 1996 to similar units per day in 2016. Please expand Table 4.2-6 to include utility consumption on the station in 1996.

21 | 8.3 | 18) **Pages 4-24, Section 4.2.4.4, No-Action Alternative, Water Demand, Wastewater, Solid Waste, Energy** - There seems to be a disconnect for the statement that the No-Action Alternative would increase consumption on station from MGD, tons per day, MWH per day, and MMCF per day at closure in 1996 to similar units per day in 2016. Please expand Table 4.2-6 to include utility consumption on the station in 1996.

22 | 9.1 | 19) **Page 4-24, Section 4.3, Page 4-32, Section 4.3.2, Page 4-37 to 4-38, Section 4.3.3.1, Hazardous Materials and Hazardous Waste Management** - See Comment #1. This also applies to similar sections on the no-action alternative.

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23 | 9.2 | 20) **Page 4-27, Section 4.3.1.3, Page 4-33, Section 4.3.2.3, Page 4-39, Section 4.3.3.3, Installation Restoration Program** - See Comment #1. This also applies to similar sections on the no-action alternative.

24 | 9.3 | 21) **Page 4-29, Section 4.3.1.4, Page 4-36, Section 4.3.2.4, Page 4-41, Section 4.3.3.4, Storage Tanks** - See Comment #1. This also applies to similar sections on the no-action alternative.

25 | 9.5 | 22) **Pages 4-31 to 4-32, Section 4.3.1.12, Mitigation Measures** - Bottom of page 4-31 to top of page 4-32, please define what is meant by right-of-egress.

26 | 14.1 | 23) **Page 4-64, Section 4.4.4, Biological Resources** - This section states that a letter was sent to the USFWS requesting concurrence with the July 1995 inspection results regarding the Indiana bat and the eastern prairie fringed orchid. The response letter from USFWS should be copied and put into an appendix of this document before finalizing the document.

27 | 14.2 | 24) **Appendix I, Page I-4** - It is hoped that the Ohio Department of Natural Resources, Division of Wildlife was also contacted with respect to any state endangered species. A letter should be obtained from this state agency and included in this appendix.

If you have any questions or comments, please feel free to contact me:
(312) 886-0850.

Sincerely,

Laura J. Ripley

Laura J. Ripley
Federal Facilities Project Manager

cc: Timothy Hull, OEPA
Steve Thompson, AFBCA

Document 5

City of Kettering

3600 Shroyer Road/Kettering, Ohio 45429 - 2799/Phone (513) 296-2400

Fax (513) 296-3242

October 17, 1995

Mr. George Gauger
Chief of the Environmental Planning Division
AFCEE/ESEP
8106 Chennault Road
Building 1155
Brooks Air Force Base, TX 78235-5318

Dear George:

This letter is in response to the Draft Environmental Impact Statement dated August 1995 regarding the disposal of Gentile Air Force Station in Kettering, Ohio. As we indicated at the public hearing held in Kettering, the city is very pleased with the thoroughness of the Draft Environmental Impact Statement. It was a well-detailed report.

There are two items that we wanted to clarify for the record. Those items are the use of the term "commercial uses" and the specific reference to the Montgomery County Board of Mental
1 Retardation as an occupant in a specific building. Our concern regarding the use of the word "commercial" is that we want to make it clear that it certainly is not the city's intent in the zoning
3.4 of this facility to have what are traditionally known as commercial business uses, but rather industrial/office type of uses. Our ordinances would permit some support in commercial uses that were oriented to and logical in supporting the reused activities and uses on the base.

2 The second item regards the MRDD (Montgomery County Board of Mental Retardation). They were specifically mentioned in our plan because they were a client on the site under a one-year
3.5 interim lease. In the long term, they would like to stay on the site – which we would like to encourage. However, we have not worked out final details for a long-term lease and occupancy and certainly need to maintain the flexibility of having other uses in the space they now occupy should that benefit the reuse of Gentile Station. As we discussed with you, and as I think is clear in the intention of the text of the reuse plan, there could be, over the years, a multiple of different uses in the various buildings on the base. The important thing is that the impact and the relationship between the uses remain consistent and effective in the reuse of Gentile Station.

Thank you very much again for the thoroughness of the job you did, and we will look forward to working with you to achieve a final environmental impact statement and preparation of the base for reuse into the private sector.

Sincerely,

Peter J. Horan
Assistant City Manager

PJH:tmh

Document 6

OhioEPA

State of Ohio Environmental Protection Agency

Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402-2911

George V. Voinovich
Governor

November 7, 1995

Mr. George Gauger
Environmental Conservation and Planning Directorate
Headquarters, AFCEE
3207 North Road
Brooks AFB, TX 78235-5363

Re: Gentile AFS, OH

Dear Mr. Gauger:

The Ohio EPA has reviewed the draft Environmental Impact Statement for the Gentile AFS, OH, which was received in our office on August 30, 1995. Based upon this review, the Ohio EPA has no comments on this document.

Should you have any questions, please feel free to contact me.

Sincerely,

Timothy C. Hull

Timothy C. Hull
Remedial Action Coordinator
Office of Federal Facilities Oversight

TCH

cc: ~~Steve Thompson~~ Gentile AFS, OH
Laura Ripley, USEPA V, Chicago

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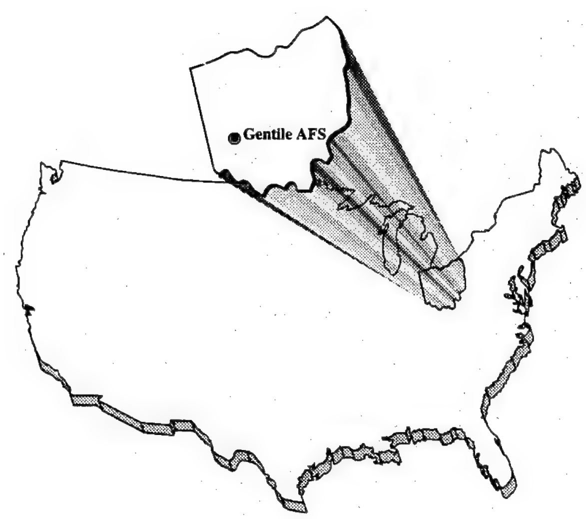
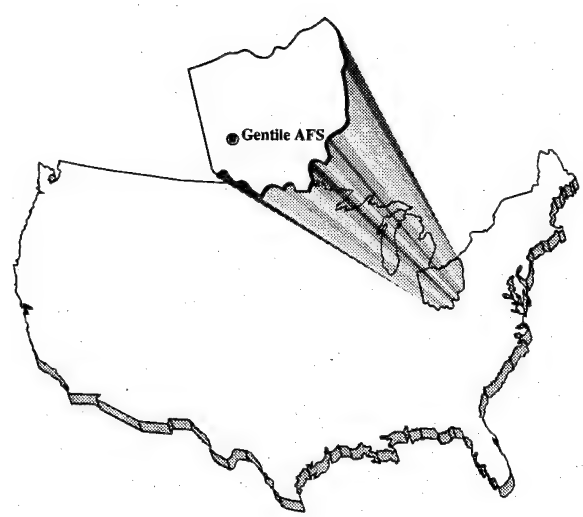


APPENDICES



APPENDIX A

APPENDIX A

GLOSSARY OF TERMS AND ACRONYMS/ABBREVIATIONS

APPENDIX A

GLOSSARY OF TERMS AND ACRONYMS/ABBREVIATIONS

GLOSSARY OF TERMS

Advisory Council on Historic Preservation. A 19-member body appointed, in part, by the President of the United States to advise the President and Congress, and to coordinate the actions of federal agencies on matters relating to historic preservation, to comment on the effects of such actions on historic and archaeological cultural resources, and to perform other duties as required by law (Public Law [P.L.] 89-655; 16 U.S. Code [U.S.C.] §470).

Aesthetics. Referring to the perception of beauty.

Aggregate. Materials such as sand, gravel, or crushed stone used for mixing with a cementing material to form concrete or alone as railroad ballast or graded fill.

Alluvial plain. Plain produced by deposition of alluvium.

Alluvium. Clay, silt, sand, gravel, or similar material deposited by running water.

Ambient air quality standards. Standards established on a state or federal level that define the limits for airborne concentrations of designated "criteria" pollutants (nitrogen dioxide [NO_2], sulfur dioxide [SO_2], carbon monoxide [CO], total suspended particulates, ozone and lead to protect public health with an adequate margin of safety (primary standards) and to protect public welfare including plant and animal life, visibility, and materials (secondary standards).

Aquifer. The water-bearing portion of subsurface earth material that yields or is capable of yielding useful quantities of water to wells.

Archaeology. A scientific approach to the study of human ecology, cultural history, and cultural process.

Arterial. Signalized street that serves primarily through-traffic and provides access to abutting properties as a secondary function.

Asbestos. A carcinogenic substance formerly used widely as an insulation material by the construction industry; often found in older buildings.

Attainment area. A region that meets the National Ambient Air Quality Standards for a criteria pollutant under the Clean Air Act.

Average Annual Daily Traffic (AADT). For a 1-year period, the total volume passing a point or segment of a highway facility in both directions, divided by the number of days in the year.

Biophysical. Pertaining to the physical and biological environment, including the environmental conditions crafted by man.

Biota. The plant and animal life of a region.

Capacity. The maximum rate of flow at which vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions.

Carbon monoxide (CO). A colorless, odorless, poisonous gas produced by incomplete fossil-fuel combustion. One of the six pollutants for which there is a national ambient standard. See Criteria Pollutants.

Class I, II, and III Areas. Area classifications, defined by the Clean Air Act, for which there are established limits to the annual amount of air pollution increase. Class I areas include international parks and certain national parks and wilderness areas; allowable increases in air pollution are very limited. Air pollution increases in Class II areas are less limited, and are least limited in Class III areas. Areas not designated as Class I start out as Class II and may be reclassified up or down by the state, subject to federal requirements.

Comprehensive Plan. A public document, usually consisting of maps, text, and supporting materials, adopted and approved by a local government legislative body, which describes future land uses, goals, and policies.

Contaminants. Undesirable substances rendering something unfit for use.

Convey. To deliver title of property to a nonfederal entity.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This act was passed in 1980 and amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 (42 U.S.C. 9601-11050, 10 U.S.C. 2701-2810 et al). The act consists of four basic elements. The first element is the establishment of an information gathering and analysis system for the characterization of contaminated sites. This system is utilized in the development of the U.S. Environmental Protection Agency's (EPA's) National Priorities List (NPL). The second element is the establishment of Federal authority to response to hazardous substance emergencies and cleanup leaking sites. The third element is the creation of a trust fund to pay for the removal and remedial actions. The fourth element makes persons who are responsible for hazardous substance releases liable for cleanup and restitution costs.

Council on Environmental Quality (CEQ). Established by the National Environmental Policy Act (NEPA), the CEQ consists of three members appointed by the President. CEQ regulations (40 Code of Federal Regulations §§1500-1508, as of July 1, 1986) described the process for implementing NEPA, including preparation of environmental assessments and environmental impact statements, and the timing and extent of public participation.

Corrosive. A material that has the ability to cause visible destruction of living tissue and has a destructive effect on other substances. An acid or a base.

Criteria Pollutants. The Clean Air Act required the U.S. EPA to set air quality standards for common and widespread pollutants after preparing "criteria documents" summarizing scientific knowledge on their health effects. Today there are standards in effect for six "criteria pollutants:" SO_2, CO, particulate matter equal to or less than 10 microns in diameter (PM_{10}), NO_2, ozone, and lead.

Cultural resources. Prehistoric and historic districts, sites, buildings, objects, or any other physical evidence of human activity considered important to a culture, subculture, or a community for scientific, traditional, religious, or any other reason.

Cumulative impacts. The combined impacts resulting from all activities occurring concurrently at a given location.

Easement. A right or privilege (agreement) that a person may have on another's property.

Effluent. Waste material discharged into the environment.

Emergency Planning and Community Right-to-Know Act (EPCRA). This act was passed in 1986, and was designed to promote emergency planning and preparedness at both the state and local level.

Endangered species. A species that is threatened with extinction throughout all or a significant portion of its range.

Environmental Impact Analysis Process. The process of conducting environmental studies as outlined in Air Force Instruction 32-7061.

Erosion. Wearing away of soil and rock by weathering, and the action of streams, wind, and underground water.

Extirpate. To destroy or exterminate.

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). This act was last amended in 1991, 7 U.S.C. 136-136y. FIFRA deals with the sale, distribution, transportation, storage, and use of pesticides. It requires the registration of new pesticides and, when pesticides are registered, requires that they will present any unreasonable risks to human health or the environment if used according to label directions.

Floodplain. The lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands including, at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year.

Friable. Easily crumbled or reduced to powder under hand pressure.

Fungicides. Any substance that kills or inhibits the growth of fungi.

Geomorphic. Pertaining to the form of the earth or its surface features.

Groundwater. Water within the earth that supplies wells and springs.

Groundwater basin. Subsurface structure having the character of a basin with respect to collection, retention, and outflow of water.

Groundwater recharge. Absorption and addition of water to the zone of saturation.

Hazardous material. Generally, a substance or mixture of substances that has the capability of either causing or significantly contributing to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or posing a substantial present or potential risk to human health or the environment. Use of these materials is regulated by Department of Transportation, Occupational Safety and Health Administration, and SARA.

Hazardous waste. A waste, or combination of wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Regulated under the Resource Conservation and Recovery Act (RCRA).

Heavy metals. A metal (e.g., lead, mercury, cadmium, chromium) of atomic weight greater than sodium (atomic weight 22.9 grams per molecule) that forms soaps on reaction with fatty acids.

Herbicides. A pesticide, either organic or inorganic, used to destroy unwanted vegetation, especially various types of weeds, grasses, and woody plants.

Hydrocarbons (HC). Any of a vast family of compounds containing hydrogen and carbon. Used loosely to include many organic compounds in various combinations; most fossil fuels are composed predominately of hydrocarbons. When hydrocarbons mix with nitrogen oxides in the presence of sunlight, ozone is formed; hydrocarbons in the atmosphere contribute to the formation of ozone.

Ignitables. Substances that are subject to or likely to catch fire.

Impacts. An assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the adverse effects, usually measured using a qualitative and nominally subjective technique. In this document, as well as in the CEQ regulations, the word impact is used synonymously with the word effect.

Infrastructure. The basic installations and facilities on which the continuance and growth of a local community depend (e.g., roads, schools, power plants, transportation, communication systems).

Interstate. The designated National System of Interstate and Defense Highways located in both rural and urban areas, connecting the east and west coasts, and extending from points on the Canadian border to various points on the Mexican border.

Lead. A heavy metal used in many industries, which can accumulate in the body and cause a variety of negative effects. One of the six pollutants for which there is a national ambient air quality standard. See Criteria Pollutants.

Level of service (LOS). In transportation analyses, a qualitative measure describing operational conditions within a traffic stream, and how they are perceived by motorists and/or passengers. In public services, a measure describing the amount of public services (e.g., fire protection and law enforcement services) available to community residents, generally expressed as the number of personnel providing the services per 1,000 population.

Liquefaction susceptibility. Potential for fluidization and loss of mechanical strength of structural soils during an earthquake.

Loam, Loamy. Rich, permeable soil composed of a mixture of clay, silt, sand, and organic matter.

MACT (Maximum Achievable Control Technology). The maximum degree of reduction in emissions taking into consideration the cost of compliance control technology that is based on economic and technological feasibility rather than health and environmental effects of hazardous air pollutants.

Mineral. Naturally occurring inorganic element or compound.

Mineral resources. Mineral deposits that eventually may become available, known deposits not recoverable at present or yet undiscovered.

Mitigation. A method or action to reduce or eliminate program impacts.

MOBILE 5A. A U.S. EPA mobile source emission factor model recommended for estimating emissions of VOCs, NO_x, and CO from motor vehicles in all states except California. The primary components of the MOBILE 5A model include the base emission factors, the effects of local conditions, vehicle fleet mix, fuel characteristics, and inspection and maintenance programs.

National Ambient Air Quality Standards (NAAQS). Section 109 of the Clean Air Act requires the U.S. EPA to set nationwide standards, the NAAQS, for widespread air pollutants. Currently, six pollutants are regulated by primary and secondary NAAQS: CO, lead, NO_2, ozone, PM_{10}, and SO_2. See Criteria Pollutants.

National Environmental Policy Act (NEPA). P.L. 91-190, passed by Congress in 1969 codified as (42 U.S.C. §§ 4321-43706). The Act established a national policy designed to encourage consideration of the influences of human activities (e.g., population growth, high-density urbanization, industrial development) on the natural environment. NEPA also established the CEQ. NEPA procedures require that environmental information be made available to the public before decisions are made. Information contained in NEPA documents must focus on the relevant issues in order to facilitate the decision-making process.

National Priorities List (NPL). The U.S. EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under CERCLA of 1980, as amended.

National Register of Historic Places (National Register). A register of districts, sites, buildings, structures, and objects important in American history, architecture, archaeology, and culture, maintained by the Secretary of the Interior under authority of Section 2(b) of the Historic Sites Act of 1935 and Section 101(a)(1) of the National Historic Preservation Act of 1966, as amended.

Native Americans. Used in a collective sense to refer to individuals, bands, or tribes who trace their ancestry to indigenous populations of North America prior to Euro-American contact.

Native vegetation. Plant life that occurs naturally in an area without agricultural or cultivational efforts. It does not include species that have been introduced from other geographical areas and have become naturalized.

Nitrogen dioxide (NO_2). Gas primarily formed from atmospheric nitrogen and oxygen when combustion takes place at high temperature. NO_2 emissions contribute to acid deposition and formation of atmospheric ozone. One of the six pollutants for which there is a national ambient air quality standard. See Criteria Pollutants.

Nitrogen oxides (NO_x). Gases primarily formed by fuel combustion, which contribute to the formation of acid rain. HC and NO_2 combine in the presence of sunlight to form ozone, a major constituent of smog.

Nonattainment area. An area that has been designated by the U.S. EPA, or the appropriate state air quality agency, as exceeding one or more national or state ambient air quality standard.

100-year flood zone. Land area having a 1-percent chance of being flooded during a given year.

Operating Location (OL). An organizational element of the Air Force Base Conversion Agency located at a closing or realigning base. The OL is responsible for the care and custody of closed areas of the base, disposal of real and related personal property, and environmental cleanup. This office is the primary point of contact for local community reuse organizations, and the general public who deal with the disposal and reuse of the base.

Occupational Safety and Health Act (OSHA). This act, last amended in 1990 (29 U.S.C. 651-678), governs the issues related to occupational safety and health. The purpose and policy of this act are to assure every working man and woman in the nation safe and healthful working conditions and to preserve our human resources by, among other things, providing for the development and publication of occupational safety and health standards, providing for an effective enforcement program, and providing for appropriate reporting procedures with respect to occupational safety and health.

Outlease. Contract by which the government transfers exclusive possession of real estate or facilities for a specified term.

Ozone (ground level). A major ingredient of smog. Ozone is produced from reactions of hydrocarbons and NO_x in the presence of sunlight and heat. Some 68 areas, mostly metropolitan, did not meet a December 31, 1987, deadline in the Clean Air Act for attaining the ambient air quality standard for ozone.

PCB-contaminated equipment. Equipment that contains a concentration of polychlorinated biphenyls (PCBs) (see definition) from 50 to 499 parts per million and is regulated by the U.S. EPA.

PCB equipment. Equipment that contains a concentration of PCBs of 500 parts per million or greater and is regulated by the U.S. EPA.

Permeability. The capacity of a porous rock or sediment to transmit a fluid.

Pesticides. Any substance, organic or inorganic, used to destroy or inhibit the action of plant or animal pests; the term thus includes insecticides, herbicides, fungicides, rodenticides, miticides, fumigants, and repellents. All pesticides are toxic to humans to a greater or lesser degree. Pesticides vary in biodegradability.

Physiographic province. A region in which all parts are similar in geologic structure and climate.

Pitchblende. A mineral formed by radioactive decay, often found in sulfide-bearing veins.

Pleistocene. An earlier epoch of the Quaternary period during the "ice age" beginning approximately 3 million years ago and ending 10,000 years ago. Also refers to the rocks and sediments deposited during that time.

Plume. An elongated mass of contaminated fluid moving with the flow of the fluid.

Polychlorinated biphenyls (PCBs). Any of a family of industrial compounds produced by chlorination of biphenyls. These compounds are chiefly noted as an environmental pollutant that accumulates in organisms, and concentrates in the food chain with resultant pathogenic and teratogenic effects. They also decompose very slowly.

Potable water. Suitable for drinking.

Prehistoric. The period of time before the written record.

Prevention of Significant Deterioration (PSD). In the 1977 Amendments to the Clean Air Act, Congress mandated that areas with air cleaner than required by NAAQS must be protected from significant deterioration. The Clean Air Act's PSD program consists of two elements: requirements for Best Available Control Technology on major new or modified sources, and compliance with an air quality increment system.

Prevention of Significant Deterioration Area. A requirement of the Clean Air Act that limits the increases in ambient air pollutant concentrations in attainment areas to certain increments even though ambient air quality standards are met.

Prime farmland. Environmentally significant agricultural lands protected from irreversible conversion to other uses.

Primary roads. A consolidated system of connected main roads important to regional, statewide, and interstate travel; they consist of rural arterial routes, and their extensions into and through urban areas of 5,000 or more population.

Recent. The time period from approximately 10,000 years ago to the present, and the rocks and sediments deposited during that time.

Sediment. Material deposited by wind or water.

Seismicity. Relative frequency and distribution of earthquakes.

Seismic Zone 1. Area designated in the Uniform Building Code as having a low potential risk for large seismic events.

Shrink/swell potential. Volume change possible upon wetting or drying.

Site. As it relates to cultural resources, any location where humans have altered the terrain or discarded artifacts.

Site-related. A group that is directly or indirectly related to the station property. For example, site-related population refers to all employees (direct and secondary), and their dependents, associated with the reuse.

Soil series. A group of soils having similar parent materials, genetic horizons, and arrangement in the soil profile.

Solvent. A substance that dissolves or can dissolve another substance.

State Historic Preservation Officer. The official within each state, authorized by the state at the request of the Secretary of the Interior to act as liaison for purposes of implementing the National Historic Preservation Act.

Sulfur dioxide (SO_2). A toxic gas that is produced when fossil fuels, such as coal and oil, are burned. SO_2 is the main pollutant involved in the formation of acid rain. SO_2 also can irritate the upper respiratory tract and cause lung damage. During 1980, some 27 million tons of SO_2 were emitted in the United States, according to the Office of Technology Assessment. The major source of SO_2 in the United States is coal-burning electric utilities.

Surplus property. Property designated as excess that is of no interest to any federal agency. These properties are made available to state, local, or nonprofit organizations or sold to private organizations.

Threatened species. Plant and wildlife species likely to become endangered in the foreseeable future.

Total Suspended Particulates (TSP). The particulate matter in the ambient air. The previous NAAQS for particulates was based on TSP levels and was replaced in 1987 by an ambient standard based on PM_{10} levels.

Traffic assignment. The allocation of traffic flows among routes available between any two places.

Transfer. Deliver U.S. Government property accountability to another federal agency.

Trip distribution. A determination of the interchange of trips among zones in the region.

Trip generation. A determination of the quantity of trip ends associated with a parcel of land.

Unified Soil Classification System. A rapid method for identifying and grouping soils. Soils are grouped by grain size, gradation, and liquid limit.

Unique farmland. Agricultural lands protected from conversion by the U.S. Department of Agriculture due to their value for production of specific or high economic value crops.

U.S. Environmental Protection Agency (EPA). The independent federal agency, established in 1970, that regulates federal environmental matters and oversees the implementation of federal environmental laws.

Volatile organic compound (VOC). Compounds containing carbon, excluding CO, CO_2, carbonic acid, metallic carbides, metallic carbonates, and ammonium carbonate.

Volume. The number of vehicles passing a point on a lane, roadway, or other traffic way during some time interval.

Waters of the United States. Waters that are subject to Section 404 of the Clean Water Act. These include both deep water aquatic habitats and special aquatic sites, including wetlands. Jurisdictional wetlands include those that are isolated, part of intermittent streams, or that are adjacent to waters that are, or eventually flow into, interstate or navigable waters.

Wetlands. Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil. This classification includes swamps, marshes, bogs, and similar areas. Jurisdictional wetlands are those wetlands that meet the hydrophytic vegetation, hydric soils, and wetland hydrology criteria under normal circumstances (or meet the special circumstances as described in the U.S. Army Corps of Engineers 1987 wetland delineation manual where one or more of these criteria may be absent and are a subset of "waters of the United States").

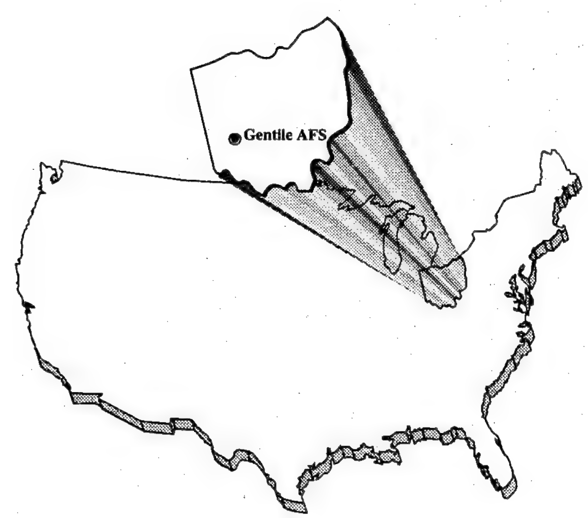
Zoning. The division of a municipality (or county) into districts for the purpose of regulating land use, types of building, required yards, necessary off-street parking, and other prerequisites to development. Zones are generally shown on a map and the text of the zoning ordinance specifies requirements for each zoning category.

ACRONYMS/ABBREVIATIONS

AADT	average annual daily traffic
AAFES	Army and Air Force Exchange Services
ACM	asbestos-containing materials
A.D.	Anno Domini
ADT	average daily trips
AEHA	U.S. Army Environmental Hygiene Agency
AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AFI	Air Force Instruction
AFS	Air Force Station
AHERA	Asbestos Hazard Emergency Response Act
APE	Area of Potential Effect
BACT	Best Available Control Technology
B.C.	Before Christ
CAA	Clean Air Act (federal)
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
COE	U.S. Army Corps of Engineers
CPSC	Consumer Product Safety Commission
CWA	Clean Water Act
DBCRA	Defense Base Closure and Realignment Act
DCIS	Defense Criminal Investigation Service
DEIS	Draft Environmental Impact Statement
DERP	Defense Environmental Restoration Program
DESC	Defense Electronics Supply Center
DFAS	Defense Finance and Accounting Service
°F	degrees Fahrenheit
DLA	Defense Logistics Agency
DOD	Department of Defense
DOI	Department of the Interior
DOT	Department of Transportation
DP&L	Dayton Power & Light
DRMO	Defense Reutilization and Marketing Office
DSMOA	Department of Defense/State Memorandum of Agreement
EDO	Economic Development Overlay
EIAP	environmental impact analysis process
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FEIS	Final Environmental Impact Statement
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act

FPMR	Federal Property Management Regulations
FPPA	Farmland Protection Policy Act
FS	feasibility study
FY	fiscal year
gpm	gallons per minute
GSA	General Services Administration
HAP	hazardous air pollutant
HARM	Hazard Assessment Rating Methodology
HAZMIN	Hazardous Waste Minimization Plan
HHS	Department of Health and Human Services
HMTA	Hazardous Materials Transportation Act
HUD	U.S. Department of Housing and Urban Development
I	Interstate
IRP	Installation Restoration Program
kg	kilogram
kV	kilovolt
kVA	kilovolt ampere
LOS	level of service
LRA	local redevelopment authority
MACT	Maximum Achievable Control Technology
MEK	methyl ethyl ketone
MGD	million gallons per day
$\mu g/m^3$	micrograms per cubic meter
mg/m^3	milligrams per cubic meter
MMCF	million cubic feet
MSDS	Material Safety Data Sheet
MWH	megawatt-hours
N/A	not available
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NCP	National Oil and Hazardous Substance Pollution Contingency Plan
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
N_2O	nitrous oxide
N_2O_3	nitrogen trioxide
N_2O_4	nitrogen tetroxide
NO	nitric oxide
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O_3	ozone
OAC	Ohio Administrative Code
OBUST	Ohio Bureau of Underground Storage Tanks
ODNR	Ohio Division of Natural Resources
OL	Operating Location

ORC	Ohio Revised Code
OSHA	Occupational Safety and Health Administration
PA	preliminary assessment
PA/SI	preliminary assessment/site inspection
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene
pCi/l	picocuries per liter
PHV	peak-hour volume
P.L.	Public Law
PM_{10}	particulate matter equal to or less than 10 microns in diameter
POL	petroleum, oil, and lubricants
ppm	parts per million
PSD	Prevention of Significant Deterioration
PVC	polyvinyl chloride
RA	remedial action
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RD	remedial design
RD/RA	remedial design/remedial action
RI	remedial investigation
RI/FS	remedial investigation/feasibility study
ROD	Record of Decision
ROI	region of influence
R-O-W	right-of-way
SARA	Superfund Amendments and Reauthorization Act
SHPO	State Historic Preservation Officer
SI	site inspection
SIAS	Socioeconomic Impact Analysis Study
SIP	State Implementation Plan
SO_2	sulfur dioxide
SPCCP	Spill Prevention Control and Countermeasures Plan
TD	technology development
TIC	tentatively identified compounds
TLC	target list compounds
TSCA	Toxic Substances and Control Act
TSDF	Treatment, Storage, and Disposal Facility
TSP	total suspended particulates
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
V/C	volume-to-capacity
VOC	volatile organic compound
VPH	vehicles per hour
VMT	vehicle miles traveled



APPENDIX B

APPENDIX B

NOTICE OF INTENT

APPENDIX B

NOTICE OF INTENT

The following Notice of Intent was circulated and published by the Air Force in the October 29, 1993, Federal Register in order to provide public notice of the Air Force's intent to prepare an Environmental Impact Statement for disposal and reuse of Gentile Air Force Station, Ohio. This Notice of Intent has been retyped for clarity and legibility.

NOTICE OF INTENT
TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT
FOR DISPOSAL AND REUSE OF SEVEN AIR FORCE BASES

The United States Air Force (Air Force) is issuing this notice to advise the public that the Air Force intends to prepare seven environmental impact statements (EISs) to assess the potential environmental impacts of disposal and reuse of the following bases identified for closure by Congress:

Gentile Air Force Station, Dayton, Ohio

Griffiss Air Force Base, Rome, New York

March Air Force Base, Riverside, California

Newark Air Force Base, Newark, Ohio

K. I. Sawyer Air Force Base, Marquette, Michigan

O'Hare International Airport Air Force Reserve Station, Chicago, Illinois

Plattsburgh Air Force Base, Plattsburgh, New York

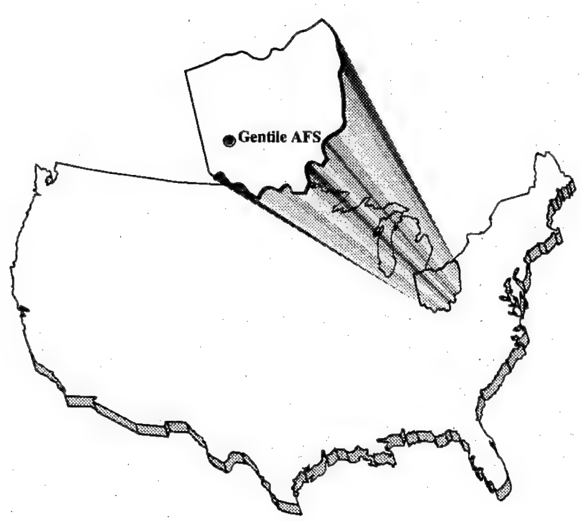
These EISs will address the potential environmental impacts of disposal of the property to public or private entities, as well as the potential environmental impacts of all reasonable reuse alternatives.

To provide a forum for public officials and the community to provide information and comments, scoping meetings will be held in each community beginning in November 1993 and continuing through late 1994. Notice of the times and locations of these meetings will be provided at a later date, and publicized in each community and in the Federal Register. The purpose of these meetings is to: (1) identify the environmental issues and concerns that should be analyzed to support base disposal and reuse; (2) solicit comments on the proposed action; and (3) solicit potential disposal and reuse alternatives for consideration in developing each EIS. In soliciting disposal and reuse alternatives, the Air Force will consider all reasonable alternatives offered by any federal, state or local government agency, and any federally-sponsored or private entity or individual. The resulting EISs will be considered in making disposal decisions that will be documented in the Air Force's Final Disposal Plan and Record of Decision for each base.

To ensure sufficient time to adequately consider public comments concerning environmental issues and disposal alternatives to be included in the EISs, the Air Force recommends that comments and reuse proposals be presented at the upcoming scoping meetings or forwarded to the address listed below at the earliest possible date. The Air Force will, however, accept additional comments at any time during the environmental impact analysis process.

Please direct written comments or requests for further information concerning the base disposal and reuse EISs to:

Lt. Colonel Gary P. Baumgartel
AFCEE/ESE
8106 Chennault Road
Brooks AFB, Texas 78235-5318
(210) 536-3869



APPENDIX C

APPENDIX C

DRAFT ENVIRONMENTAL IMPACT STATEMENT MAILING LIST

APPENDIX C

DRAFT ENVIRONMENTAL IMPACT STATEMENT MAILING LIST

This list of recipients includes interested federal, state, and local agencies and individuals who have expressed an interest in receiving the document. This list also includes the governor of Ohio as well as United States senators and representatives and state legislators.

ELECTED OFFICIALS

Federal Officials

U.S. Senate

The Honorable John Glenn

The Honorable Michael Dewaine

U.S. House of Representatives

The Honorable Tony P. Hall

The Honorable John Boehner

State of Ohio Officials

Governor

The Honorable George Voinovich

State Legislature

The Honorable Robert L. Corbin
42nd District

The Honorable Nancy Chiles Dix
Ohio Representative

The Honorable Joseph E. Haines
74th District

The Honorable Merle G. Kearns
10th District

The Honorable Lloyd Louis, Jr.
38th District

The Honorable J. Donald Mottley
41st District

The Honorable Marilyn J. Reid
76th District

The Honorable Tom Roberts
39th District

State Assembly

State Senate

The Honorable Charles F. Horn
6th District

The Honorable Rhine L. McLin
5th District

Local Officials

The Honorable Shirley F. Heinz
Mayor of Centerville

The Honorable Michael R. Turner
Mayor of Dayton

The Honorable Richard P. Hartman
Mayor of Kettering

The Honorable D. Jeffrey Ireland
Mayor of Oakwood

The Honorable Paul Dunnigan
Mayor of Beavercreek

GOVERNMENT AGENCIES

Federal Agencies

Department of Defense

Advisory Council on Historic Preservation

Center for Environmental Health and Injury Control
Center for Disease Control

Defense Logistics Agency

Department of Agriculture
Environmental Coordination Office

Department of Commerce
Office of Intergovernmental Affairs

Department of Health and Human Services
Office of Environmental Affairs

Department of Housing and Urban Development
Community Management Division

Department of Labor
Intergovernmental Affairs

Department of the Interior
Office of Environmental Affairs

Department of Transportation
Federal Highway Administration

Department of Veterans Affairs
Mr. Allen Maurer

General Services Administration
Office of Real Estate Policy and Sales

Office of Economic Adjustment

U.S. Environmental Protection Agency
Office of Federal Activities

Regional Offices of Federal Agencies

Advisory Council on Historic Preservation
Eastern Office of Project Review

U.S. Army Corps of Engineers
Louisville District

Department of Commerce
Economic Development Administration

Department of Education
Region 5 Director

Department of Health and Human Services
Region 5 Director

Department of Housing and Urban Development
Region 5 Director

Department of the Interior
Fish and Wildlife Services

Department of the Interior
National Park Service
Director, Midwest Region

Department of Transportation
Federal Highway Administration
Region 5 Director

U.S. Environmental Protection Agency
Region 5 Director
Laura Ripley

Veterans Affairs
Office of Public Affairs
Region 4 Director

State of Ohio Agencies

Agricultural Department
Director

Air Quality Development Authority
Director

Architects and Landscape Examiners Board
Directors

Commerce Department
Director

Hazardous Waste Facility Board
Chairman

Historical Society
Director

Human Services Department
Director

Natural Resources Department
Director

National Resources Department
Soil and Water Conservation District

Ohio Environmental Protection Agency
Director

Ohio Environmental Protection Agency
Tim Hull

Public Utilities Section
Chief Director

Transportation Department
Director

Transportation Section
Chief

Water Development Authority
Director

Local Government Agencies

Montgomery County Board of Commissioners
President

Montgomery County Board of Education
President

Dayton Area Chamber of Commerce
President

Miami Valley Regional Planning Commission
Executive Director

Kettering/Morraine/Oakwood
Chamber of Commerce

Libraries

Kettering-Morraine Library

Kettering Public Library

Dayton and Montgomery County Public Library

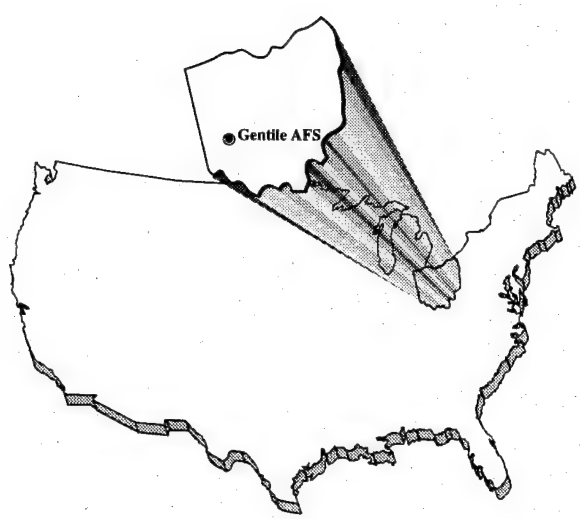
Wright State University
Dunbar Library

Other

DESC Reuse Committee

Craig M. Brandt

Defense Technical Information Center



APPENDIX D

APPENDIX D

INSTALLATION RESTORATION PROGRAM BIBLIOGRAPHY

APPENDIX D

INSTALLATION RESTORATION PROGRAM BIBLIOGRAPHY

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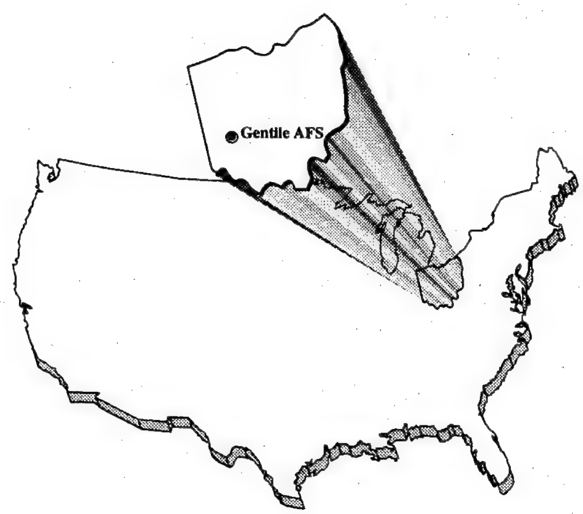

APPENDIX E

APPENDIX E

METHODS OF ANALYSIS

APPENDIX E
METHODS OF ANALYSIS

1.0 INTRODUCTION

This section describes the methods used in preparing this environmental impact statement (EIS). These methods were designed and implemented to evaluate the potential environmental impacts of disposal of Gentile Air Force Station (AFS). Since future reuse of the station is uncertain in its scope, activities, and timing, the analysis considered several alternative reuse scenarios and evaluated their associated environmental impacts. The reuse scenarios analyzed in this EIS were defined for this study to span the anticipated range of reuse activities that are reasonably likely to occur due to disposal of the station. They were developed based on proposals put forth by affected local communities, interested individuals, and the Air Force, and considered general land use planning objectives.

The various analysis methods used to develop this EIS are summarized here by resource. In some instances, more detail is included in another appendix. These instances are noted for each resource in its respective subsection below.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The March 1995 community reuse plan was utilized to develop the Proposed Action. Preparation of the Proposed Action was coordinated with the Defense Electronics Supply Center (DESC) Reuse Committee to ensure that the data developed represented the community's reuse desires. If data were not available in the community reuse plan, the necessary data were generated for analysis. The DESC Reuse Committee provided land uses, building retention, overall employment, phasing, new construction, and trip generation for the Proposed Action. The overall employment data were transferred into standard land use categories for computer modeling to determine employment for each land use. In addition to the data provided, utility demands were developed for the Proposed Action, and a geographic information system (GIS) was utilized to derive consistent land use acreages. Alternatives to the Proposed Action were developed by the Air Force. A comprehensive planning model was utilized to derive land uses, population, employment, building retention, phasing, ground disturbance, utility consumption, and trip generation for the reuse alternatives.

A site visit was made by planning, facilities, and infrastructure personnel in December 1993 to interview key community and on-station personnel. The data collected during the site visit were used to compile existing station facilities information, community concerns and issues, and the project site's internal opportunities and constraints. Areas of unstable soils, floodplains,

wetlands, unique aesthetic resources, and the transportation network were evaluated for development of reuse scenarios. In addition, existing off-station land use, community zoning, future community/neighborhood land use plans, and data pertaining to other special projects were collected. This information provided an understanding of the project site's overall opportunities and constraints, including future community land uses.

A list of buildings (greater than 500 square feet) was generated from the station Real Property Inventory List. Other facilities, such as water tanks or recreation pavilions, were not included on the list, although it was acknowledged that they may have importance in reuse. Analysis of real property records in conjunction with the site visit provided information on building types and condition.

Employment data generated for the plans were based on an analysis of the land uses and the types of buildings located within each land use. Factors estimating employment per building square footage were applied to each of the land uses to derive the employment. These factors, based on typical industrial standards, varied depending on the land use.

Market and economic trend data were analyzed as part of the plan development process to determine the absorption of the land uses within the Proposed Action and alternatives at the 5-, 10-, and 20-year intervals. This absorption is expressed in terms of a percentage at each of the intervals. Ground disturbance associated with the Proposed Action and alternatives was also reviewed as a result of infrastructure modification and building renovation, demolition, and new construction.

Trip generation for the alternatives was estimated using the Institute of Transportation Engineers' (ITE) trip generation rates developed for land uses and associated employment and building space. Each proposed land use was compared to the land use categories in the ITE database, and an appropriate land use category was selected. The number of trips was determined from the trip generation rate for that land use and the number of trip ends per unit of the independent variable (i.e., per employee or per 1,000 square feet). Each land use was compared to the trip generation characteristics of the land use type, the sample size of the ITE data, and specific site characteristics of the proposed land use, and adjustments were made that realistically estimated the trips generated by land use type for Gentile AFS. Trips were then aggregated for the station to determine the total estimated average daily traffic volume for each alternative. Trip generation for each land use was estimated based upon the anticipated phasing of development over the 20-year period. Trip generation data were generated for 5-, 10-, and 20-year intervals.

Utility consumption for the Proposed Action and alternatives was generated for water, wastewater, solid waste, electricity, and, natural gas. Historic station consumption data were collected for the utilities. Expected

consumption for each utility was derived using the historic consumption data. Consumption rates, based on land use, were derived for water, wastewater, and solid waste. Consumption rates for electricity and natural gas were determined using building square footage. These rates were calculated and applied to the proposed land uses in the Proposed Action and alternatives. In addition, the utility usage that would not normally be captured in an average consumption rate was determined for each of the land uses. The results were generated for the 5-, 10-, and 20-year intervals.

3.0 LOCAL COMMUNITY

3.1 COMMUNITY SETTING

The section on community setting was developed to provide the context within which other biophysical impacts could be assessed. Community setting impacts were based on projected direct and secondary employment and resulting population changes related to reuse of Gentile AFS. These projections were used to quantify and evaluate changes in demand on community services, demand on transportation systems, air quality, and noise. A complete assessment of socioeconomic effects was conducted through a separate Socioeconomic Impact Analysis Study (SIAS) for the Disposal of Gentile AFS, which is the source for baseline and projected statistics used in this EIS.

The SIAS used information from sources including the U.S. Bureau of the Census, U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics; U.S. Council of Economic Advisors; the Ohio Bureau of Employment Services; the Ohio Department of Development; the counties of Montgomery, Greene, Clark, and Miami; and the cities of Dayton, Huber Heights, Kettering, and Beavercreek. The analysis used the Air Force Socioeconomic Evaluation Model (AFSEM), version 4.0, Regional Input-Output Model to generate demographic and economic projections associated with the Proposed Action and alternatives.

3.2 LAND USE AND AESTHETICS

Potential land use impacts were projected based on compatibility of land uses associated with the Proposed Action and alternatives with adjacent land uses and zoning; consistency with general plans and other land use plans, regulations, and regional plans and policies.

The Region of Influence (ROI) for the majority of direct land use impacts for this study consisted of Gentile AFS and portions of the cities of Kettering and Dayton, surrounding the station.

Maps, aerial photographs, and windshield surveys were used to characterize on- and off-station land uses. Applicable policies, regulations, and land use restrictions were identified from the land use plans and ordinances of

municipalities in the ROI. The alternatives were compared to existing land use and zoning to identify areas of conflict, as well as to local planning goals and objectives as set forth in community comprehensive plans.

For the aesthetics analysis, the affected environment was described based upon the visual sensitivity of areas within and visible from the station. These areas were categorized as high, medium, and low sensitivity. The Proposed Action and alternatives were then evaluated to identify land uses to be developed, visual modifications that would occur, and new areas of visual sensitivity, and determine whether modification of unique or otherwise irreplaceable visual resources would occur and detract from the visual qualities or setting. Consistency with applicable plans that protect visual resources was also examined.

3.3 TRANSPORTATION

Potential impacts to transportation due to the Proposed Action and alternative reuse plans for Gentile AFS focus on key roads, including those segments of the transportation networks in the region that serve as direct or mandatory indirect linkages to the station, and those that are commonly used by Gentile AFS personnel. The need for improvements to on-station roads, off-station access, and regional arterial was considered. The analysis was derived using information from state and local government agencies. Other data sources used for the roadway analysis include the Institute of Transportation Engineers and the Transportation Research Board. The ROI for the transportation analysis includes the principal road and rail networks that serve the cities of Dayton and Kettering, with emphasis on the area surrounding Gentile AFS.

The number of vehicle trips expected as a result of specific land uses on the station was estimated for 1996, 2001, 2006, and 2016 on the basis of direct on-station jobs and other attributes of on-station land uses (such as the number of dwelling units, commercial and industrial development, and other factors). Trip Generation Data from the Institute of Transportation Engineers was used to determine vehicle trips. Vehicle trips were then allocated to the local road network using prior patterns and expected destinations and sources of trips. When appropriate, the local road network was adjusted to account for changes over time from presently planned road capacity improvements and improvements required by the proposed reuse scenarios. Changes in work and associated travel patterns were derived by assigning or removing traffic to or from the most direct commuting routes. Freeway-bound traffic was determined as a percentage of total trips, then distributed to key regional roads based on trip length distribution. Changes in traffic volumes arising from reuse alternatives at Gentile AFS were estimated and resulting volume changes on key local, regional, and on-station roadway segments were then determined.

The transportation network in the ROI was then examined to identify potential impacts to levels of service (LOSs) arising from future baseline conditions and effects of reuse alternatives. Planning computations from the Highway Capacity Manual were used to determine a given level of service. The planning application provided estimates of traffic and anticipated levels of service where the amount of detail and accuracy of information were limited. The planning procedures used in this analysis were based on forecasts of average annual daily traffic and on assumed traffic, roadway, and control conditions. The results provided a basic assessment of whether or not capacity was likely to be exceeded for a given volume. Intersection analysis was then integrated into the planning capacity analysis for each roadway section analyzed and the results provided an estimate of the changes in LOS ratings expected as a result of traffic volume changes on key local, regional, and on-station roadway segments.

Projected effects of reuse alternatives on railroad transportation were based on projected populations, using current passenger to population ratios. Population figures were used since none of the alternatives assumes direct use of local railroads.

Vehicle miles traveled (VMT) for preclosure conditions were determined for personnel commuting to the station and for VMT on station. VMT for commuting personnel were determined by identifying the distribution of station personnel by zip codes within and outside the ROI. The centroid of each zip code area was identified and the straight line distance to the station was measured. For persons residing outside the ROI and commuting to the station, the distance from a point on the ROI boundary near the commuting route to the station was used. Actual travel distances to the station from a number of locations within the ROI were evaluated and compared against the straight line distance. Based on this review the straight line distances were increased by 20 percent to take into account the routes traveled by commuters. The VMT analysis took into account a small percentage of the personnel that ride share.

The VMT analysis for on-station activities was developed by determining the straight line distance from the centroids of each parking area to the access gates. The total number of employees, reduced by 5 percent to take ride sharing into consideration, was distributed to parking areas based on an estimate of the number of parking spaces in each area. The distance was multiplied by the number of employees for each parking area to obtain the on-station VMT.

This process was applied to the Proposed Action and alternatives by taking the employees commuting to the station and allocating them to the various zip codes based on the existing employee distribution.

3.4 UTILITIES

Utility usage was determined based on land uses and projected area population increases. The utility systems addressed in this analysis include the facilities and infrastructure used for potable water (pumping, treatment, storage, and distribution), wastewater (collection and treatment), solid waste (collection and disposal), and energy generation and distribution (electricity and natural gas). Historic consumption data, service curtailment data, peak demand characteristics, storage and distribution capacities, and related information for station utilities (including projections of future utility demand for each utility provider's particular service area) were extracted from various engineering reports. Information was also obtained from public and private utility purveyors and related county and city agencies.

The ROI for this analysis comprised the service areas of the local purveyors of potable water, wastewater treatment, and energy that serve Gentile AFS and the surrounding area. It was assumed that these local purveyors would provide services within the area of the existing station after disposal/reuse.

Potential impacts were evaluated based on long-term projections of demand and population obtained from the various utility purveyors within the region (through 2016) for each of their respective service areas. In each case, purveyors provided the most recent comprehensive projections that were either made prior to the station closure announcement or that did not take into account a change in demand from the station. These projections were then adjusted to reflect the decrease in demand associated with closure of Gentile AFS and its subsequent operation under caretaker status. These adjusted forecasts were then considered the future baseline for comparison with potential reuse alternatives.

The potential effects of reuse alternatives were evaluated by estimating and comparing the additional direct and indirect demand associated with each alternative to the existing and projected operating capabilities of each utility system. Estimates of direct utility demands on station were used to identify the effects of the reuse activities on station-related utility systems. All changes to the utility purveyors' long-term forecasts were based on estimated project-related population changes in the region and the future rates of per capita demand explicitly indicated by each purveyor's projections or derived from those projections. It was assumed that the regional per capita demand rates were representative of the reuse activities, based on assumed similarities between proposed land uses and existing or projected uses in the region. Projections in the utilities analysis include direct demand associated with activities planned on station property, as well as resulting changes in domestic demand associated with population changes in the region.

4.0 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

Two categories of hazardous materials and hazardous waste management issues were addressed for this analysis: (1) impacts of hazardous materials utilized and hazardous wastes generated by each reuse proposal, and (2) residual impacts associated with past installation practices including delays due to Installation Restoration Program (IRP) site remediation. IRP sites and potential contamination sites were identified as part of the affected environment (Chapter 3.0), while possible remediation impacts associated with these sites were addressed as environmental consequences (Chapter 4.0). Impacts of wastes generated by each reuse proposal were also addressed in Chapter 4.0. Primary sources of data were existing published reports such as IRP documents, management plans for various toxic or hazardous substances (e.g., spill response, hazardous waste, asbestos), and survey results (e.g., radon). Pertinent federal, state, and local regulations and standards were reviewed for applicability to the Proposed Action and alternatives. Storage tank, pesticide, polychlorinated biphenyl (PCB), and other inventories were obtained from Gentile AFS. Interviews with personnel associated with these on-station agencies provided the information necessary to fill any data gaps.

The ROI includes the current station property and all geographical areas that have been affected by an on-station release of a hazardous material or hazardous waste. The IRP sites and potential contamination sites are located within the station boundary.

Preclosure baseline conditions as defined for this study include current hazardous materials/waste management practices and inventories pertaining to the following areas: hazardous materials, hazardous waste, IRP sites, aboveground and underground storage tanks, asbestos, pesticides, PCBs, radon, medical/biohazardous waste, ordnance, and lead-based paint. The impact analysis considered (1) the amount and type of hazardous materials/waste currently associated with specific facilities and/or areas proposed under each reuse alternative; (2) the regulatory requirements or restrictions associated with property transfer and reuse; (3) delays to development due to IRP remediation activities; and (4) remediation schedules of specific hazardous materials/waste (e.g., PCBs) currently used by the Air Force.

5.0 NATURAL ENVIRONMENT

5.1 GEOLOGY AND SOILS

Evaluation of soils impacts addressed erosion potential, construction-related dust generation and other soils problems (low soil strength, expansive soils, etc.), and disturbance of unique soil types. Information was obtained from several federal, state, and local agencies. Assessment of potential impacts to geology from the reuse alternatives included evaluation of resource potential (especially aggregates), geologic hazards (particularly potential for seismicity, liquefaction, and subsidence), and flooding potential.

The soils analysis was based on a review of U.S. Natural Resource Conservation Service documents for soil properties. The soils in the ROI were then evaluated for erosion potential, permeability, evidence of hardpans, expansive soil characteristics, etc., as these relate to construction problems and erosion potential during construction. Mitigations were evaluated based on county ordinances and Natural Resource Conservation Service recommendations. Common engineering practices were reviewed to determine poor soil characteristics and recommended mitigation measures. The ROI for the geologic analysis included the region surrounding Gentile AFS relative to seismic activity, aggregate resources, and flooding potential. The ROI for the soils analysis was limited to the station and specific areas designated for construction or renovation.

The geologic analysis was based on a review of existing literature for construction problems associated with geologic hazards, availability of construction aggregate, and whether reuse would impact the availability of known mineral resources.

The treatment of paleontological resources is governed by Public Law 74-292 (the National Natural Landmarks Program, implemented by 36 Code of Federal Regulations [CFR] 62). Only paleontological remains determined to be significant are subject to consideration and protection by a federal agency. Among the criteria used for National Natural Landmark designation are illustrative character, present condition, diversity, rarity, and value for science and education.

5.2 WATER RESOURCES

Analysis of impacts of the reuse alternatives on water resources considered groundwater quality and quantity, surface water quality (effects from erosion or sedimentation and contamination), surface water drainage diversion, and non-point source surface runoff to the West Branch of Little Beaver Creek. Impacts to water quality resources resulting from IRP activities were addressed under Hazardous Materials and Waste Management. Information was obtained from several federal, state, and local agencies. The ROI for water resources included the groundwater basin underlying the station, the

surface drainage directly affected by runoff from the station, and the 100-year floodplain of the West Branch of Little Beaver Creek in the vicinity of the station.

Existing surface water conditions were evaluated for flood potential, non-point source discharge or transportation of contaminants, and surface water quality. Groundwater resources were evaluated as they pertained to adequate water supplies for each of the reuse alternatives. Groundwater quality and the potential as a potable water source for each reuse alternative was documented. The existing storm water drainage system was evaluated based on available literature, and the impacts to this system from each of the reuse alternatives were determined.

5.3 AIR QUALITY

The air quality resource is defined as the condition of the atmosphere, expressed in terms of the concentrations of air pollutants occurring in an area as the result of emissions from natural and/or man-made sources. Reuse alternatives have the potential to affect air quality depending on net changes in the release of both gaseous and particulate matter emissions. The impact significance of these emission changes were determined by comparing the resulting atmospheric concentrations to state and federal ambient air quality standards. This analysis drew from climatological data, air quality monitoring data, baseline emission inventory information, construction scheduling information, reuse-related source information, and transportation data. Principal sources of these data were the Ohio Environmental Protection Agency (EPA), the Dayton/Springfield Airshed, the Gentile AFS office of Environmental Management, and the transportation analysis conducted for this EIS.

The ROI was determined by emissions from sources associated with construction and operation of the reuse alternatives. For inert pollutant emissions (all pollutants other than ozone and its precursors), the measurable ROI is limited to a few miles downwind from the source, (i.e., the immediate area of Gentile AFS). The ROI for ozone impacts from project emissions include Montgomery and Greene counties.

Emissions predicted to result from the proposed alternatives were compared to existing baseline emissions to determine the potential for adverse air quality impact. Impacts were also assessed by modeling, where appropriate, and compared to air quality standards and attainment levels for complying with these standards. Appendix H contains the projected emissions inventory information and methods. Background concentrations were added to the project impacts for comparison with the standards and attainment levels. Impacts were considered significant if project emissions would (1) increase an off-station ambient pollutant concentration from below to above a federal, state, or local standard; (2) contribute a measurable amount to an existing or projected air quality standard exceedance; (3) expose

sensitive receptors (such as schools or hospitals) to substantial pollutant concentrations. All other air quality impacts were considered insignificant.

5.4 BIOLOGICAL RESOURCES

Biological resources addressed in relation to disposal and reuse of Gentile AFS included vegetation, wildlife, threatened and endangered species, and sensitive habitats (e.g., wetlands). Primary data sources for the analysis included published literature and reports on the station; contacts with agencies such as the U.S. Fish and Wildlife Service (USFWS) and the Ohio Division of Natural Resources; an inspection of the station in July 1995; and various reference books.

The ROI for biological resources is Gentile AFS. Vegetation and sensitive biological resources on the station were mapped using aerial photography and tab maps. An inspection of Gentile AFS was completed by a qualified biologist in July 1995 to ascertain the West Branch of Little Beaver Creek's habitat potential for the Indiana bat and eastern prairie fringed orchid, as requested by USFWS in a correspondence letter dated February 10, 1995. Particular attention was focused on suitable roosting habitat for the Indian bat and the presence or known habitat of the eastern prairie fringed orchid. Plant specimens were collected and identified using dicotymous keys. Wildlife observations during the field inspection were noted, while the inspection concentrated on the West Branch of Little Beaver Creek, the rest of the station was also examined using similar methods.

Potential wetlands were identified using U.S. Army Corps of Engineers (COE) criteria for the delineation of wetlands. Although a formal wetland delineation has not been conducted, soil types and drainages in the southern portion of the station were used as a basis for characterization. Soils in this area are Crosby series - urban land complex, which contain hydric components that could support wetlands because it is characteristically inundated for 2 weeks or more during the growing season. This soil type also meets the criterion for the hydrologic component of wetlands. The West Branch of Little Beaver Creek and associated drainages in the southern portion of the station also meet this criterion because of the year-round presence of water. Plants, such as black willow and black birch, grow in the drainages and are associated with wet conditions, thus meeting the hydrophytic vegetation criterion for wetlands. Designation as a jurisdictional wetland requires a formal delineation and concurrence by the COE.

The direct impact analysis was performed by overlaying project land use maps for each alternative onto the biological resource maps to calculate the potential for disturbance for each land use under each reuse scenario. Analysis of impacts to vegetation included the effects of management practices, construction disturbance, herbicide use, or possible toxic contamination. Wildlife impacts addressed included habitat disturbance or fragmentation and increased stress from human presence. Potential impacts

to candidate, threatened, and endangered species were especially noted where applicable.

Impacts to sensitive species habitats were addressed in terms of indirect impacts from disturbance on adjacent lands and associated runoff, as well as direct impacts including habitat loss or degradation, and increase in human use of an area. To determine direct impacts to wetlands, the wetland acreage in each applicable land use category was subtracted from the total land use category acreage, leaving the total non-wetland (upland) acreage available for development. This available upland acreage was compared with the estimated acreage needed for development to determine whether each land use category included sufficient upland area for development or if there were wetland areas that could potentially or would likely be impacted by proposed development.

In evaluating the potential impacts of each alternative on biological resources, it was assumed that all staging and other areas temporarily disturbed by construction, demolition, and renovation would be placed in previously disturbed areas (e.g., paved or cleared areas), to the fullest extent possible. It was also assumed that proportions of disturbance associated with each land use category were determined based on accepted land use planning concepts. Development within each parcel could occur at one or more designated locations anywhere within that category.

5.5 CULTURAL RESOURCES

Cultural resources generally include three main categories: prehistoric resources, historic structures and resources, and traditional resources. Prehistoric resources are places where human activity has measurably altered the earth or left deposits of physical remains. Historic structures and resources include standing structures and other physical remains of historic significance. Traditional resources are topographical areas, features, habitats, plants, animals, minerals, or archaeological sites that contemporary Native Americans or other groups value presently, or did so in the past, and consider essential for the persistence of their traditional culture. Cultural resources of particular concern include properties listed in the National Register of Historic Places (National Register), properties potentially eligible for inclusion in the National Register, and sacred Native American sites and areas.

Data used to compile information on these resources were obtained from existing environmental documents; material on file at Gentile AFS; recent cultural resource reports pertaining to the station; interviews with individuals familiar with the history, archaeology, or paleontology of the area; and records of the Ohio Historical Center. The ROI for cultural resources includes all areas within the boundaries of Gentile AFS.

The EIS contains the most up-to-date information on the importance of cultural resources on Gentile AFS, based on recent and ongoing evaluation of eligibility for the National Register. Cultural resources for which eligibility information was unavailable were assumed to be eligible for the National Register, as is stipulated in the National Historic Preservation Act (NHPA).

According to National Register criteria (36 CFR 60.4), the quality of significance is present in districts, sites, buildings, structures, and objects:

(a) that are associated with events that have made a significant contribution to the broad patterns of history

(b) that are associated with the lives of persons significant in the past

(c) that embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic value; or represent a significant and distinguishable entity whose components may lack individual distinction

(d) that have yielded, or may be likely to yield, information important in prehistory or history.

To be listed in or considered eligible for listing in the National Register, a cultural resource must meet at least one of the above criteria and must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. Integrity is defined as the authenticity of a property's historic identity, as evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric occupation or use. If a resource retains the physical characteristics it possessed in the past, it has the capacity to convey information about a culture or people, historical patterns, or architectural or engineering design and technology.

Compliance with requirements of cultural resource laws and regulations ideally involves four basic steps: (1) identification of significant cultural resources that could be affected by the Proposed Action or its alternatives, (2) assessment of the impacts or effects of these actions, (3) determination of significance of potential historic properties within the ROI, and (4) development and implementation of measures to eliminate or reduce adverse impacts. The primary law governing cultural resources in terms of their treatment in an environmental analysis is the NHPA, which addresses the protection of archaeological, historic, and Native American resources. In compliance with the NHPA, the Air Force is in the process of consultation with the State Historic Preservation Officer, as required under Sections 106 and 111 of the NHPA.

Adverse effects that may occur as a result of station reuse are those that have a negative impact on characteristics that make a resource eligible for listing on the National Register. Actions that can diminish the integrity, research potential, or other important characteristics of an historic property include the following (36 CFR 800.9):

- Physical destruction, damage, or alteration of all or part of the property

- Isolating the property from its setting or altering the character of the property's setting when that character contributes to the property's qualification for the National Register

- Introduction of visual or auditory elements that are out of character with the property or that alter its setting

- Transfer or sale of a federally owned property without adequate conditions or restrictions regarding its preservation, maintenance, or use

- Neglect of a property, resulting in its deterioration or destruction.

Regulations for implementing Section 106 of the NHPA indicate that the transfer, conveyance, lease, or sale of an historic property are procedurally considered to be adverse effects, thereby ensuring full regulatory consideration in federal project planning and execution. However, effects of a project that would otherwise be found to be adverse may not be considered adverse if one of the following conditions exists:

- When the historic property is of value only for its potential contribution to archaeological, historical, or architectural research, and when such value can be substantially preserved through the conduct of appropriate research, and such research is conducted in accordance with applicable professional standards and guidelines

- When the undertaking is limited to the rehabilitation of buildings and structures and is conducted in a manner that preserves the historical and architectural value of the affected historic property through conformance with the Secretary's Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings

- When the undertaking is limited to the transfer, conveyance, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

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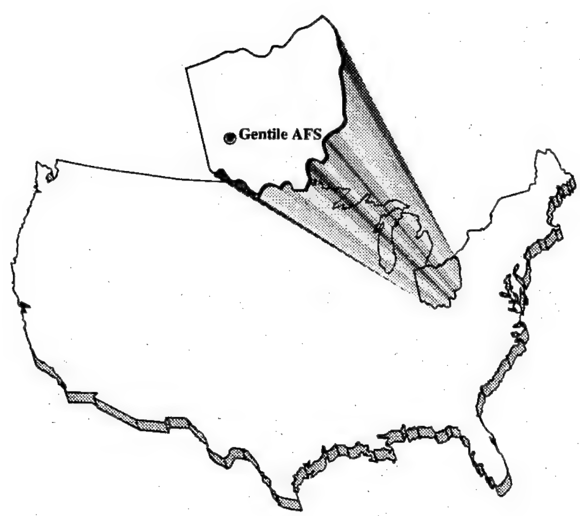

APPENDIX F

APPENDIX F

CURRENT PERMITS

Table F-1. Current Environmental Permits

Permit No.		Permitted Facility/ Equipment	Issuing Agency	Date of Issuance	Date of Expiration
0857040042	B003[b]	Heating Plant/ Boiler #3	Ohio EPA	11/05/93	11/04/96
0857040042	B004[b]	Heating Plant/ Boiler #4	Ohio EPA	11/05/93	11/04/96
0857040042	F003[b]	Heating Plant/ Ash System	Ohio EPA	09/06/94	09/05/97
0857040042	B007[b]	Building 45/ Natural Gas Boiler	Ohio EPA	02/04/94	02/04/97
0857040042	F001[b]	Roads/Parking	Ohio EPA	On Registration	NA
0857040042	F002[b]	Coal Handling System	Ohio EPA	On Registration	NA
0857040042	F004[b]	Building 4/ Sawdust Collector	Ohio EPA	On Registration	NA
0857040042	F006[b]	Coal Storage Pile	Ohio EPA	On Registration	NA
0857040042	K002[b]	Building 45/Paint Bench Booth	Ohio EPA	On Registration	NA
0857040042	P001- P007[b]	Buildings 73 and 81/Generators	Ohio EPA	On Registration	NA
94-1400[c]		Buildings 45 and 46/Sewer Line	Montgomery County	07/19/94	12/31/95
OH 0111147[d]		NPDES/4 outfalls	U.S. EPA	10/01/83	05/15/84[a]

Notes: (a) Gentile AFS is currently authorized by Ohio state agencies to operate under the old permit.
(b) Air emission permit.
(c) Sanitary sewer discharge permit.
(d) NPDES permit.
EPA = Environmental Protection Agency
NA = not applicable
NPDES = National Pollutant Discharge Elimination System

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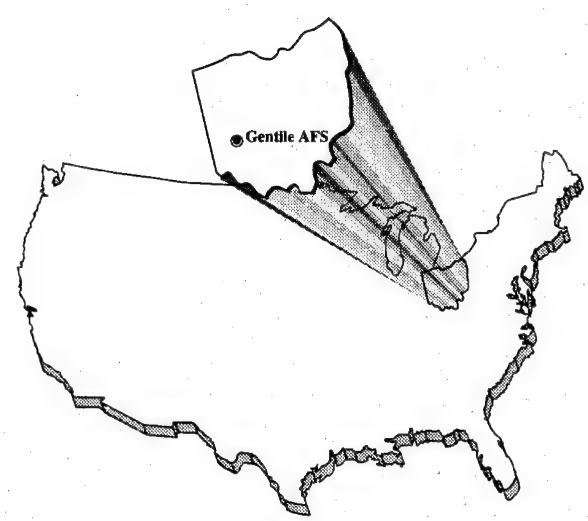

APPENDIX G

APPENDIX G

BIOLOGICAL RESOURCES

Table G-1. Species Potentially Present in the Vicinity of Gentile AFS

Common Name	Scientific Name
PLANTS	
Maple Family	***Aceraceae***
Black maple	*Acer nigrum*
Norway maple	*Acer platanoides*
Silver maple	*Acer saccharinum*
Milkweed Family	***Asclepiadaceae***
Milkweed	*Asclepias* sp.
Sunflower Family	***Asteraceae***
Thistle	*Cirsium* sp.
Goldenrod	*Solidago* sp.
Birch Family	***Betulaceae***
Black birch	*Betula nigra*
Honeysuckle Family	***Caprifoliaceae***
Viburnum	*Viburnum* sp.
Legume Family	***Fabaceae***
Clover	*Trifolium* sp.
Running buffalo clover	*Trifolium stoloniferum*
Buckeye Family	***Hippocastanaceae***
Ohio buckeye	*Aesculus glabra*
Mulberry Family	***Moraceae***
Red mulberry	*Morus rubra*
Olive Family	***Oleaceae***
White ash	*Fraxinus americana*
Orchid Family	***Orchidaceae***
Eastern prairie fringed orchid	*Platanthera leucophaea*
Pine Family	***Pinaceae***
Norway spruce	*Picea abies*

Table G-1. Species Potentially Present in the Vicinity of Gentile AFS

Common Name	Scientific Name
PLANTS (Continued)	
White spruce	*Picea glauca*
Bristlecone pine	*Pinus aristata*
Jack pine	*Pinus banksiana*
Austrian pine	*Pinus nigra*
White pine	*Pinus strobus*
Scotch pine	*Pinus sylvestris*
Douglas fir	*Pseudotsuga taxifolia*
Grass Family	***Poaceae***
Common brome grass	*Bromus commutatus*
Meadow-fesque	*Festuca pratensis*
Panic grass	*Panicum* sp.
Buckwheat Family	***Polygonaceae***
Dock	*Rumex* sp.
Rose Family	***Rosaceae***
Downy hawthorn	*Crataegus mollis*
Willow Family	***Salicaceae***
Black willow	*Salix nigra*
Yew Family	***Taxaceae***
Hicks yew	*Taxus media hicksii*
Yew	*Taxus thayeri*
Linden Family	***Tiliaceae***
American basswood	*Tilia americana*

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Table G-1. Species Potentially Present in the Vicinity of Gentile AFS

Common Name	Scientific Name
BIRDS	
Herons, Bitterns	**Ardeidae**
Great egret	*Casmerodius albus*
Snowy egret	*Egretta thula*
Cattle egret	*Bubulcus ibis*
Black-crowned night heron	*Nycticorax nycticorax*
Yellow-crowned night heron	*Nyctanassa violacea*
Green heron	*Butorides striatus*
Swans, Geese, Ducks	***Anatidae***
Canada goose	*Branta canadensis*
American black duck	*Anas rubripes*
Mallard	*Anas platyrhynchos*
American vultures	***Cathartidae***
Turkey vulture	*Cathartes aura*
Black vulture	*Coragyps atratus*
Hawks, Eagles, and Others	***Accipitridae***
Sharp-shinned hawk	*Accipiter striatus*
Cooper's hawk	*Accipiter cooperii*
Northern harrier	*Circus cyaneus*
Red-tailed hawk	*Buteo jamaicensis*
Rough-legged hawk	*Buteo lagopus*
Red-shouldered hawk	*Buteo lineatus*
Broad-winged hawk	*Buteo platypterus*
Caracaras and Falcons	***Falconidae***
American kestrel	*Falco sparverius*
Peregrine falcon	*Falco peregrinus*
Quails, Partridges, and Others	***Phasianidae***
Common bobwhite	*Colinus virginianus*
Plovers	***Charadriidae***
Killdeer	*Charadrius vociferus*
Pigeons, Doves	***Columbidae***
Mourning dove	*Zenaida macroura*
Rock dove	*Columba livia*

Table G-1. Species Potentially Present in the Vicinity of Gentile AFS

Common Name	Scientific Name
BIRDS (Continued)	
Owls	
Eastern screech owl	*Otus asio*
Long-eared owl	*Asio otus*
Great horned owl	*Bubo virginianus*
Barred owl	*Strix varia*
Goatsuckers	***Caprimulgidae***
Common nighthawk	*Chordeiles minor*
Whip-poor-will	*Caprimulgus vociferus*
Swifts	***Apodidae***
Chimney swift	*Chaetura pelagica*
Hummingbirds	***Trochilidae***
Ruby throated hummingbird	*Archilochus colubris*
Kingfishers	***Alcedinidae***
Belted kingfisher	*Ceryle alcyon*
Woodpeckers	***Picidae***
Red-headed woodpecker	*Melanerpes erythrocephalus*
Larks	***Alaudidae***
Horned lark	*Eremophila alpestris*
Jays, Magpies, and Crows	***Corvidae***
Blue jay	*Cyanocitta cristata*
Bluebirds, Solitaires, Other Thrushes	***Muscicapidae***
American robin	*Turdus migratorius*
Mockingbirds and Thrashers	***Mimidae***
Brown thrasher	*Toxostoma rufum*
Starlings	***Sturnidae***
European starling	*Sturnus vulgaris*

Table G-1. Species Potentially Present in the Vicinity of Gentile AFS
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Common Name	Scientific Name
BIRDS (Continued)	
Vireos	***Vireonidae***
Red-eyed vireo	*Vireo olivaceus*
White-eyed vireo	*Vireo griseus*
Sparrows, Blackbirds, and Others	***Emberizidae***
Yellow warbler	*Dendroica petechia*
Cerulean warbler	*Dendroica cerulea*
Kentucky warbler	*Oporornis formosus*
Yellow breasted chat	*Icteria virens*
Eastern meadowlark	*Sturnella magna*
Red-winged blackbird	*Agelaius phoeniceus*
Common grackle	*Quiscalus quiscula*
Bobolink	*Dolichonyx oryzivorus*
Northern cardinal	*Cardinalis cardinalis*
Indigo bunting	*Passerina cyanea*
Dickcissel	*Spiza americana*
Grasshopper sparrow	*Ammodramus savannarum*
Vesper sparrow	*Pooecetes gramineus*
Finches	***Fringillidae***
American goldfinch	*Carduelis tristis*
Old World Sparrows	***Passeridae***
House sparrow	*Passer domesticus*

References:

Audubon Society, 1984. Checklist of the Birds of Ohio, prepared by Tom Thomson.

Peterson, R.T., 1980. A Field Guide to the Eastern Birds, the Peterson Field Guide Series, Houghton Mifflin Co., Boston

Common Name	Scientific Name
MAMMALS	
Raccoons and Ringtails	**Procyonidae**
Raccoon	*Procyon lotor*
Deer	**Cervidae**
White tailed deer	*Odocoileus virginianus*

Table G-1. Species Potentially Present in the Vicinity of Gentile AFS

Common Name	Scientific Name
MAMMALS (Continued)	
Squirrels	***Sciuridae***
Woodchuck	*Marmota monax*
Thirteen-lined ground squirrel	*Citellus tridecemlineatus*
Eastern chipmunk	*Tamias striatus*
Eastern gray squirrel	*Sciurus carolinensis*
Eastern fox squirrel	*Sciurus niger*
Red squirrel	*Tamiasciurus hudsonicus*
Beavers	***Castoridae***
Beaver	*Castor canadensis*
Rats, Mice, and Voles	***Cricetidae***
Prairie vole	*Microtus ochrogaster*
Meadow vole	*Microtus pennsylvanicus*
Eastern wood rat	*Neotoma floridana*
Muskrat	*Ondatra zibethica*
White-footed mouse	*Peromyscus leucopus*
Deer mouse	*Peromyscus maniculatus*
Pine vole	*Pitymys pinetorum*
Southern bog lemming	*Synaptomys cooperi*
Old World Rats and Mice	***Muridae***
House mouse	*Mus musculus*
Norway rat	*Rattus norvegicus*
Jumping Mice	***Zapodidae***
Meadow jumping mouse	*Zapus hudsonius*
Rabbits and Hares	***Leporidae***
Eastern cottontail	*Sylvilagus floridanus*
Marsupials	***Didelphiidae***
Opossum	*Didelphis marsupialis*
Shrews	***Soricidae***
Shorttail shrew	*Blarina brevicauda*
Least shrew	*Cryptotis parva*
Masked shrew	*Sorex cinereus*

Table G-1. Species Potentially Present in the Vicinity of Gentile AFS
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Common Name	Scientific Name
MAMMALS (Continued)	
Moles	***Talpidae***
Starnose mole	*Condylura cristata*
Eastern mole	*Scalopus aquaticus*
Evening Bats	***Vespertilionidae***
Big brown bat	*Eptesicus fuscus*
Silver-haired bat	*Lasionycteris noctivagans*
Red bat	*Lasiurus borealis*
Hoary bat	*Lasiurus cinereus*
Keen bat	*Myotis keenii*
Little brown bat	*Myotis lucifugus*
Indiana bat	*Myotis sodalis*
Small-footed bat	*Myotis subulatus*
Evening bat	*Nycticeius humeralis*
Eastern pipistrel	*Pipistrellus subflavus*
Eastern big-eared bat	*Plecotus refinesquei*
Western big-eared bat	*Plecotus townsendii*
Free-Tailed Bats	***Molossidae***
Brazilian free-tailed bat	*Tadarida brasiliensis*
Weasels, Otters, Skunk, and Badgers	***Mustelidae***
River otter	*Lutra canadensis*
Striped skunk	*Mephitis mephitis*
Longtail weasel	*Mustela frenata*
Least weasel	*Mustela rixosa*
Mink	*Mustela vison*
Badger	*Taxidea taxus*
Coyotes and Foxes	***Canidae***
Coyote	*Canis latrans*
Grey fox	*Urocyon cinereoargenteus*
Red fox	*Vulpes vulpes*

References:

Benyus, J.M., 1989. The Field Guide to Wildlife Habitats of the Eastern United States, Simon & Schuster, Inc., New York.

Burt, W.H. and R.P. Grossenheider, 1976. A Field Guide to the Mammals of America North of Mexico, Peterson Field Guide Series.

Schwartz, C.W. and E. Schwartz, 1981. The Wild Animals of Missouri, University of Missouri Press and Missouri Department of Conservation.

Table G-1. Species Potentially Present in the Vicinity of Gentile AFS

Common Name	Scientific Name
AMPHIBIANS AND REPTILES	
Giant Salamanders	***Cryptobranchidae***
Hellbender	*Cryptobranchus alleganiensis*
Newts	***Salamandridae***
Eastern newt	*Notophthalmus viridescens*
Mudpuppys and Waterdogs	***Proteidae***
Mudpuppy	*Necturus maculosus*
Mole Salamanders	***Ambystomidae***
Jefferson salamander	*Ambystoma jeffersonianum*
Spotted salamander	*Ambystoma maculatum*
Marbled salamander	*Ambystoma opacum*
Silvery salamander	*Ambystoma platineum*
Small-mouthed salamander	*Ambystoma texanum*
Tiger salamander	*Ambystoma tigrinum*
Lungless Salamanders	***Plethodontidae***
Dusky salamander	*Desmognathus fuscus*
Two-lined salamander	*Eurycea bislineata*
Long-tailed salamander	*Eurycea longicauda*
Four-toed salamander	*Hemidactylium scutatum*
Red-backed salamander	*Plethodon cinereus*
Ravine salamander	*Plethodon richmondi*
Red salamander	*Pseudotriton ruber*
Spadefoot Toads	***Pelobatidae***
Eastern spadefoot toad	*Scaphiopus holbrooki*
True Frogs	***Ranidae***
Bullfrog	*Rana catesbiana*
Green frog	*Rana clamitans*
Pickerel frog	*Rana palustris*
Northern leopard frog	*Rana pipiens*
Wood frog	*Rana sylvatica*
Toads	***Bufonidae***
Woodhouse's toad	*Bufo woodhousei*

Table G-1. Species Potentially Present in the Vicinity of Gentile AFS

Common Name	Scientific Name
AMPHIBIANS AND REPTILES (Continued)	
Treefrogs	***Hylidae***
Northern cricket frog	*Acris crepitans*
Cope's gray treefrog	*Hyla chrysoscelis*
Spring peeper	*Hyla crucifer*
Common gray treefrog	*Hyla versicolor*
Chorus frog	*Pseudacris triseriata*
Snapping Turtles	***Chelydridae***
Snapping turtle	*Chelydra serpentina*
Musk and Mud Turtles	***Kinosternidae***
Stinkpot	*Sternotherus odoratus*
Pond, Marsh, and Box Turtles	***Emydidae***
Painted turtle	*Chrysemys picta*
Spotted turtle	*Clemmys guttata*
Map turtle	*Graptemys geographica*
Eastern box turtle	*Terrapene carolina*
Softshell Turtles	***Trionychidae***
Spiny softshell	*Trionyx spiniferus*
Skinks	***Scincidae***
Five-lined skink	*Eumeces fasciatus*
Colubrid Snakes	***Colubridae***
Kirtland's snake	*Clonophis kirtlandii*
Racer	*Coluber constrictor*
Ring-necked snake	*Diadophis punctatus*
Rat snake	*Elaphe obsoleta*
Eastern hognose snake	*Heterodon platyrhinos*
Milk snake	*Lampropeltis triangulum*
Semi-aquatic snakes	*Natrix* sp.
Plain-bellied water snake	*Nerodia erythrogaster*
Northern water snake	*Nerodia sipedon*
Rough green snake	*Opheodrys aestivus*
Smooth green snake	*Opheodrys vernalis*
Queen snake	*Regina septemvittata*
Brown snake	*Storeria dekayi*
Red-bellied snake	*Storeria occipitomaculata*
Butler's garter snake	*Thamnophis butleri*
Eastern ribbon snake	*Thamnophis sauritus*

Table G-1. Species Potentially Present in the Vicinity of Gentile AFS
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Common Name	Scientific Name
AMPHIBIANS AND REPTILES (Continued)	
Pit Vipers	***Viperidae***
Common garter snake	*Thamnophis sirtalis*
Northern copperhead	*Agkistrodon contortrix mokeson*
Timber rattlesnake	*Crotalus horridus*
Eastern massasauga	*Sistrurus catenatus*

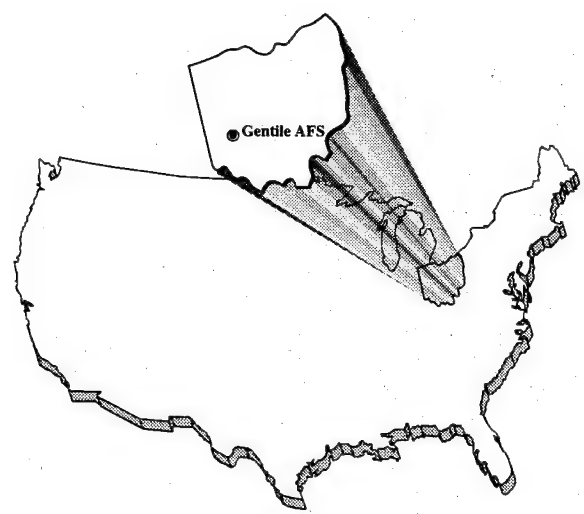
References:

Conant, R., 1975. A Field Guide to Reptiles and Amphibians of Eastern/Central North America, The Peterson Field Guide Series, Houghton Mifflin Company, Boston, Massachusetts.

FISHES	
Suckers	***Catostomidae***
Silver red horse sucker	*Moxostoma anisurum*
Sunfishes	***Centrarchidae***
Smallmouth bass	*Micropterus dolomieui*
White crappie	*Pomoxis annularis*
Open Water Species	*Dorosoma cepedianum*
Carps and Minnows	***Cyprinidae***
Shiners	*Cyprinella* sp.
Common carp	*Cyprinus carpio*
Catfishes	***Ictaluridae***
Brown bullhead	*Ictalurus nebulosus*

References:

Robison, H.W. 1992. Freshwater Fish, American Nature Guides, Smithmark Publishers, Inc.



APPENDIX H

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AIR QUALITY ANALYSIS METHODS AND AIR EMISSIONS INVENTORY FOR GENTILE AIR FORCE STATION

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AIR QUALITY ANALYSIS METHODS AND AIR EMISSIONS INVENTORY FOR GENTILE AIR FORCE STATION

PRECLOSURE EMISSIONS

Preclosure emissions inventory data for Gentile Air Force Station (AFS) are presented in Table H-1. The preclosure inventory provides a baseline, which is a composite of the best available emissions data for operations at Gentile AFS. Emissions from heating and power production, motor vehicles, surface coatings, fuel evaporation losses, and solvent degreasing sources were calculated as described in the sections below from data supplied by the environmental coordinator for the Gentile AFS Defense Electronics Supply Center. Data supplied reflect both 1992 and 1993 conditions; however, operations have remained relatively constant since the late 1980s and the data are assumed to be representative of 1992 preclosure conditions. Emissions from vehicle miles traveled (VMTs) were calculated for two categories of data. The first, emissions from direct employees of the station, were calculated based on the number of station employees, the employee distribution by zip code, average commute speeds by roadway type, and on-station distances from gates to parking areas. The second VMT category, emissions from government vehicles and heavy-duty equipment, were calculated from fleet fuel use data maintained by the Gentile AFS Transportation Division.

Table H-1. Gentile AFS Preclosure Emissions Inventory (tons per year)

Source	CO	VOC	NO_x	PM_{10}	SO_x
Boilers	25.11	2.97	21.69	4.95	55.81
Solvent Degreasing	0.00	0.01	0.00	0.00	0.00
Fuel Evaporation	0.00	0.10	0.00	0.00	0.00
Surface Coating	0.00	1.41	0.00	0.00	0.00
Mobile (Military) On-Station	21.66	3.49	12.61	negl.	negl.
Mobile (Military) Off-Station	0.28	0.05	0.21	negl.	negl.
Mobile (Military) Subtotal	21.94	3.54	12.82	negl.	negl.
Mobile (Commuter) On-Station	24.31	2.85	4.13	negl.	negl.
Mobile (Commuter) Off-Station	217.06	25.93	28.86	negl.	negl.
Mobile (Commuter) Subtotal	241.37	28.78	32.99	negl.	negl.
Total	288.42	36.81	67.50	4.95	55.81

CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_x = sulfur oxides
VOC = volatile organic compound

BOILER EMISSIONS

Boiler emissions were calculated using emission factors from the U.S. Environmental Protection Agency's (EPA's) AP-42 emission factor document, and information on boiler types, sizes, and fuel use. All fuel used in the boilers at Gentile AFS has exclusively been coal. The coal-firing emission factors used in the calculations are provided in Table H-2, while the boiler characteristics and emissions are provided in Table H-3.

Table H-2. Boiler Emission Factors

Firing Configuration	Coal Combustion Emission Factors (lbs/ton)				
	CO	VOC	NO_x	PM_{10} [a]	SO_x [b]
Underfeed Stoker	11	1.3	9.5	2.17	24.45

Notes: (a) Emission factor based on control efficiency of 65 percent for multiple cyclone collectors.
(b) Emission factor based on average sulfur weight percent in coal of 0.79.
CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_x = sulfur oxides
VOC = volatile organic compound

Source: AP-42, Tables 1.1-1, -3, and -11 (U.S. Environmental Protection Agency, 1993).

Table H-3. Gentile AFS Boiler Emissions

Source	Coal Consumption (tons/yr)	Emissions (pounds per year)				
		CO	VOC	No_x	PM_{10}	SO_x
Boiler #3	1,432	15,752.0	1,861.6	13,604.0	3,107.4	35,006.3
Boiler #4	3,134	34,474.0	4,074.2	29,773.0	6,800.8	76,612.9
Total (lbs/year)		50,226.0	5,935.8	43,377.0	9,908.2	111,619.2
Total (tons/year)		25.11	2.97	21.69	4.95	55.81

CO = carbon monoxide
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_x = sulfur oxides
VOC = volatile organic compound

FUEL EVAPORATION EMISSIONS

Fuel evaporation breathing loss emissions from the 10,000-gallon gasoline storage tank at Gentile AFS were calculated with the U.S. EPA's TANKS2 program using information on physical characteristics of the tank, storage capacity, annual throughput, and type of pollution control equipment supplied by the environmental coordinator for Gentile AFS. In addition to the TANKS2 calculations of the breathing/filling/emptying losses associated with the tank, the filling and spillage losses associated with motor vehicle gasoline pumping were estimated using emission factors from the U.S. EPA's AP-42 emission factor document, Table 4.4-7 (i.e., 1.1 pounds of VOC emissions for tank filling and 0.7 pounds of volatile organic compound (VOC) emissions

for spillage for every 1,000 gallons of gasoline pumped). A summary of the storage tank characteristics and emissions are provided in Table H-4.

Table H-4. Gentile AFS Fuel Evaporation Emissions

Source	Capacity (gallons)	Net Throughput (gallons per year)	VOC Emissions (pounds per year) Breathing/ Filling[a]	Vehicle Filling[b]	Spillage[c]	Total
Horizontal Fixed Roof UST (length = 10 feet; diameter. = 13 feet)	10,000	22,000	154.71	24.20	15.40	194.31
Total (tons per year)			0.077	0.012	0.008	0.097

Notes: (a) Emissions calculated with the U.S. EPA's TANKS2 program.
(b) Emissions calculated based on an emission factor of 1.1 pounds per 1,000 gallons from U.S. EPA's AP-42, Table 4.4-7.
(c) Emissions calculated based on an emission factor of 0.7 pounds per 1,000 gallons from U.S. EPA's AP-42, Table 4.4-7.
UST = underground storage tank
VOC = volatile organic compound

SURFACE COATING EMISSIONS

Emissions of paints and solvents were calculated from data on usage supplied by Gentile AFS. VOC emissions from the usage of these materials were calculated using density and percent VOC content data from Tables F-2 and F-3 of the *Calculation Methods for Criteria Air Pollutant Emission Inventories*, (Jagielski, et al. 1994). A summary of the surface coating types, amounts used, densities, VOC content, and VOC emissions are presented in Table H-5.

Table H-5. Gentile AFS Surface Coating Emissions

Description	Quantity (gallons per year)	Density[a] (pounds per gallon)	Assumptions	VOC Emissions (lbs/year)
Latex Paint	256.5	3.50	Water base paint	897.8
Enamel	13.5	7.60	Air dry enamel	102.6
Solvents	40.0	7.36	U.S. EPA Solvent	294.4
Traffic Paint	200.0	7.60	Air dry enamel	1,520.0
Total (pounds per year)				2,814.8
Total (tons per year)				1.41

Note: (a) Densities obtained from Calculation Methods for Criteria Air Pollutant Emission Inventories (Jagielski et al., 1994).
EPA = Environmental Protection Agency
VOC = volatile organic compound

SOLVENT DEGREASING EMISSIONS

Solvent degreasing emissions were calculated based on the delivery and removal of 20 gallons of Safety Kleen during the year. Ten percent of the solvent with a VOC content of 7.9 pounds per gallon was assumed to evaporate yielding VOC emissions of 15.8 pounds per year (0.008 ton per year).

MILITARY VEHICLE EMISSIONS

Military vehicle emissions associated with preclosure conditions at Gentile AFS were calculated with emission factors generated by the U.S. EPA's MOBILE5A vehicle emissions model. Input to the model included data on number and types of fleet vehicles as supplied by the Gentile AFS Motor Pool (Table H-6). Annual mileage was determined from fuel use data using the assumption of 15 miles per gallon for gasoline vehicles and 6 miles per gallon for diesel vehicles. Daily VMT were determined as an average by dividing the annual mileage by 365 days per year. The MOBILE5A model was run for conditions representative of the Gentile AFS area in each of the four seasons. The seasonal emission factors generated by the model were averaged to determine an appropriate annual emission factor prior to multiplying by the total mileage for the year. A summary of the daily and annual VMT data is presented in Table H-7. Calculated emissions are contained in Table H-8. SO_2 and PM_{10} emissions would be negligible.

Table H-6. Gentile AFS 1992 Military Vehicle Fleet Information

Vehicle Category/Type	Number
Gasoline <6,000 lbs	
Sedans	4
Station Wagons	4
Passenger Vans	4
Stepside Vans	3
Pickup Trucks	8
Haz Material Truck	1
Ambulance	1
Stakebed Truck	1
Subtotal	26
Gasoline >6,000 lbs	
Fire Truck	1
Diesel <6,000 lbs	
Ambulance	1
Diesel >6,000 lbs	
Buses	2
Semi Truck	1
Wrecker	1
Fire Truck	1
Dump Trucks	2
Sky Worker	1
Subtotal	8
Total	36

Table H-7. Preclosure, Closure, and Reuse Vehicle, Vehicle Miles Traveled Information

Alternative	No. of Vehicles[a]	Vehicle Miles Traveled[b] Daily (Per Vehicle)	Daily (Total)	Annual (Total)
Preclosure (1992)				
On-Station				
Civilian	2,671	1.01	2,710.9	677,723
Military (Gas)	2	33.07	892.9	325,905
Military (Diesel)	9	167.09	1,503.8	548,892
Off-Station				
Civilian	2,671	19.80	52,891.5	13,222,865
Military (Gas)	27	1.71	46.1	9,210
Military (Diesel)	9	5.54	49.9	9,978
Closure[c] (1996)				
On-Station	5	10.0	50.0	12,500
Off-Station	5	20.0	100.0	25,000
Proposed Action[d]				
2001 - On-Station	3,731	1.01	3,785.8	946,450
2001 - Off-Station	3,731	19.80	73,863.7	18,465,928
2006 - On-Station	5,455	1.01	5,535.5	1,383,884
2006 - Off-Station	5,455	19.80	108,002.4	27,000,601
Mixed Use Alternative[d]				
2001 - On-Station	3,154	1.01	3,200.6	800,156
2001 - Off-Station	3,154	19.80	62,446.5	15,611,633
2006 - On-Station	3,774	1.01	3,830.1	957,536
2006 - Off-Station	3,774	19.80	74,728.9	18,682,234
Industrial Alternative[d]				
2001 - On-Station	2,911	1.01	2,953.8	738,457
2001 - Off-Station	2,911	19.80	57,631.4	14,407,844
2006 - On-Station	3,526	1.01	3,578.5	894,632
2006 - Off-Station	3,526	19.80	69,819.7	17,454,934

Notes: (a) Number of civilian vehicles based on number of direct station employees and ridesharing factor of 0.95. Number of military vehicles based on data supplied by Tracy Petry, Gentile AFS Motor Pool manager.

(b) Daily VMT for civilian vehicles calculated by the Transportation Resource based on employee census tract data for location of residences. Annual VMT for civilian vehicles = Total Daily VMT x 250 days per year. Annual VMT for military vehicles based on fuel use records and assumption of 15 miles per gallon for gasoline vehicles and 6 mpg for diesel-fueled vehicles. Total Daily VMT for military vehicles = Annual VMT per 365 days per year.

(c) Number of Vehicles and Daily VMT estimated. Annual VMT = Total Daily VMT x 250 days per year.

(d) Number of vehicles based on number of direct reuse employees and ridesharing factor of 0.95. Daily VMT assumed similar to Preclosure conditions. Annual VMT = Total Daily VMT x 250 days per year.

VMT = vehicle miles traveled

CIVILIAN EMPLOYEE VEHICLE EMISSIONS

Civilian employee vehicle emissions were calculated using the same basic methodology as used for the military vehicles. The MOBILE5A was used to generate emission factors for the Gentile AFS area. The number of employee vehicles was assumed to equal the number of employees times a factor of 0.95 to account for ridesharing. Daily VMT, both on-station and off-station, was provided by the Transportation Resource and was based on employee zip code data and estimated average trip lengths to and from the station, and

Table H-8. Preclosure, Closure, and Reuse Vehicle, Vehicle Miles Traveled Emissions

	Emissions (tons/year)		
Alternative	VOC	CO	NO_x
Preclosure (1992)			
On-Station			
Civilian	2.85	24.31	4.13
Military (Diesel)	1.59	14.07	0.79
Military (Gas)	1.90	7.59	11.82
Subtotal	6.34	45.97	16.74
Off-Station			
Civilian	25.93	217.06	28.86
Military (Diesel)	0.03	0.21	0.02
Military (Gas)	0.02	0.07	0.19
Subtotal	25.98	217.34	29.07
Preclosure Total	32.32	263.31	45.81
Closure (1996)			
On-Station	0.04	0.42	0.03
Off-Station	0.08	0.83	0.05
Closure Total	0.12	1.25	0.08
Proposed Action			
2001 - On-Station	1.60	14.94	3.27
2001 - Off-Station	11.79	102.88	26.11
2001 - Total	13.39	117.82	29.38
2006 - On-Station	1.98	19.24	3.68
2006 - Off-Station	13.74	118.30	33.11
2006 - Total	15.72	137.54	36.79
Mixed Use Alternative			
2001 - On-Station	1.35	12.63	2.76
2001 - Off-Station	9.97	86.98	22.08
2001 - Total	11.32	99.61	24.84
2006 - On-Station	1.37	13.31	2.55
2006 - Off-Station	9.50	81.85	22.91
2006 - Total	10.87	95.16	25.46
Industrial Alternative			
2001 - On-Station	1.25	11.66	2.55
2001 - Off-Station	9.20	80.27	20.37
2001 - Total	10.45	91.93	22.92
2006 - On-Station	1.28	12.44	2.38
2006 - Off-Station	8.88	76.48	21.40
2006 - Total	10.16	88.92	23.79

CO = carbon monoxide
NO_x = nitrogen oxides
VOC = volatile organic compound

from the station gates to and from the parking areas. Annual VMT was estimated by assuming that each employee worked an average of 5 days per week, 50 weeks per year. A summary of the daily and annual VMT data is

presented in Table H-7. Calculated emissions are contained in Table H-8. SO_2 and PM_{10} emissions from the employee vehicles would be negligible.

REUSE-RELATED CONSTRUCTION EMISSIONS

Construction activities would generate combustive emissions from heavy equipment usage and fugitive dust emissions from ground disturbing activities. Fugitive dust would be generated during construction activities associated with industrial, commercial, residential, public facilities/ recreational, and federal land uses. These emissions would be greatest during site clearing and grading activities. Uncontrolled fugitive dust (particulate matter) emissions from ground-disturbing activities are emitted at a rate of 1.2 tons per acre per month, or 110 pounds per acre per day (U.S. Environmental Protection Agency, 1985). The particulate matter equal to or less than 10 microns in diameter (PM_{10}) portion of fugitive dust emissions is assumed to be 50 percent, or 55 pounds per acre per working day (acre-day).

Construction for the Proposed Action would disturb a total of approximately 31 acres over the first 5-year period of activity (1996-2001). Assuming that disturbance of the area occurs at the same rate throughout this period, an average of 6.2 acres per year would be disturbed. The analysis of fugitive dust emissions from construction activities assumes an average of 230 working days per year (accounting for weekends, weather, and holidays), and that half of these days (115) would be used for site preparation. Additionally, 4 acre-days of disturbance are assumed per acre. Thus, for the Proposed Action during the years 1996-2001, the PM_{10} emissions are calculated as follows:

Average daily disturbed acreage:

$$\frac{6.2 \text{ acres disturbed}}{\text{year}} \times \frac{4 \text{ acre-days of disturb.}}{\text{acre}} \times \frac{1 \text{ year}}{115 \text{ days}} = 0.216 \text{ acre}$$

Average daily PM_{10} emissions:

$$\frac{0.216 \text{ acre}}{\text{acre-day}} \times \underline{55 \text{ pounds } PM_{10}} = \frac{11.9 \text{ pounds } PM_{10}}{\text{day}}$$

Total annual PM_{10} emissions:

$$\frac{11.9 \text{ pounds } PM_{10}}{\text{day}} \times \frac{115 \text{ days}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ pounds}} = 0.68 \text{ tons per year}$$

Therefore, the amount of PM_{10} emitted would be 11.8 pounds per day (0.006 ton per day) for 1996-2001. These emissions would produce

elevated short-term PM_{10} concentrations, would be temporary, and would rapidly fall off with distance from the source. Similar calculations for fugitive dust emissions were performed for construction activities related to other alternatives. The results of these PM_{10} fugitive dust calculations are summarized in Table H-9.

Construction combustive emissions are estimated using the following pound-per-acre emission factors developed for a medium-scaled construction scenario that includes site preparation, new facility construction, and related infrastructure development.

Pollutant	Pounds Per Acre
CO	3,820
NO_x	1,095
PM_{10}	85
SO_x	100
VOC	290

Construction combustive emissions associated with each alternative are summarized by time period in Table H-9.

REUSE-RELATED OPERATION EMISSIONS

Emissions from the industrial, commercial, and residential land use areas planned as part of the reuse alternatives were calculated using U.S. EPA's Graphical Analytical Data System (EGADS). Indicator based emission factors were developed from data contained in EGADS for typical industry types and residential sources found in the region of influence (ROI). EGADS is a PC-based data retrieval program containing point source data from U.S. EPA's Aerometric Information Retrieval System (AIRS) and point, area, and off-road mobile source data from U.S. EPA's 1990 Interim Emissions Inventory.

Data in the EGADS database are not complete; however, sufficient data were available to select point source information for the industry types considered most likely to be located within the industrial land use area after redevelopment. Per employee point source emission factors were developed from the data available for these industry types by summing the reported emissions and dividing by the total number of employees associated with the industry types. It was assumed that the resulting per employee factors could be multiplied by the estimates of reuse-related employees working in the industrial land use area to provide reasonable estimates of the industrial point source emissions. Because of the difference in industry types and emissions, the industrial land use area was subdivided into two components, industrial manufacturing and light industrial/warehousing. The point source emission factors and calculated emissions are presented in Tables H-10 and H-11 for the industrial manufacturing and light industrial/warehousing land use areas, respectively. It is assumed that future PM_{10} point source emissions associated with these land use areas will be well controlled and

Table H-9. Construction Fugitive Dust and Combustive Emissions Associated with the Proposed Action, Mixed Use, Industrial, and No-Action Alternatives, (tons per year)

		Proposed Action[a]		Mixed Use Alternative[b]		Industrial Alternative[c]		No-Action Alternative[d]	
Pollutant	Source	2001	2006	2001	2006	2001	2006	2001	2006
NO_2	Combustive Emissions	3.40	2.30	5.80	2.08	4.60	1.21	0.00	0.00
CO	Combustive Emissions	11.84	8.02	20.25	7.26	16.04	4.20	0.00	0.00
SO_2	Combustive Emissions	0.31	0.21	0.53	0.19	0.42	0.11	0.00	0.00
PM_{10}	Combustive Emissions	0.26	0.18	0.45	0.16	0.36	0.09	0.00	0.00
	Fugitive Dust Emissions	0.68	0.46	1.17	0.42	0.92	0.24	0.00	0.00
VOC	Combustive Emissions	0.90	0.61	1.54	0.55	1.22	0.32	0.00	0.00

Notes: (a) Proposed Action emissions based on a total disturbance area of 31 acres during the period from 1996-2001, and 21 acres during the period 2001-2006.

(b) Mixed Use Alternative emissions based on a total of 53 acres disturbed by construction during the period from 1996-2001 and 19 acres disturbed during the period 2001-2006.

(c) Industrial Alternative emissions based on a total of 42 acres disturbed by construction during the period from 1996-2001 and 11 acres disturbed during the period from 2001-2006.

(d) No-Action Alternative emissions based on no land being disturbed during the periods from 1996-2001, and 2001-2006.

CO = carbon monoxide
NO_2 = nitrogen dioxide
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_2 = sulfur dioxide
VOC = volatile organic compound

Table H-10. Industrial Manufacturing Land Use Emission Factors and Reuse-Related Emissions
Page 1 of 2

Land Use/Source Category	Year	Employees	VOC	NO_x	CO	SO_2	PM_{10}
Industrial Manufacturing Land Use							
ROI Point Source Emissions[a] (tons per year)	NA	23,987	1,677	3.8	6.0	1.0	ND
Per Employee Point Source Factor (tons per employee per year)	NA	23,987	0.06991	0.00016	0.00025	0.00004	--
ROI Area/Off-Road Mobile Sources[b] (tons per year)	NA	23,987	8,402	2,620	7,157	ND	ND
Per Employee Area/Off-Road Mobile Source Factor (tons per employee per year)	NA	23,987	0.35027	0.10922	0.29836	--	--
Proposed Action Point Source Emissions (tons per year)	2001	1,413	98.8	0.2	0.4	0.1	--
	2006	1,884	131.7	0.3	0.5	0.1	--
Proposed Action Area/Off-Road Mobile Source Emissions (tons per year)	2001	1,413	494.9	154.3	421.6	--	--
	2006	1,884	659.9	205.8	562.1	--	--
Proposed Action Total Emissions (tons per year)	2001	1,413	593.7	154.5	422.0	0.1	--
	2006	1,884	791.6	206.1	562.6	0.1	--
Mixed Use Alternative Point Source Emissions (tons per year)	2001	1,338	93.5	0.2	0.3	0.1	--
	2006	1,338	93.5	0.2	0.3	0.1	--
Mixed Use Alternative Area/Off-Road Mobile Source Emissions (tons per year)	2001	1,338	468.7	146.1	399.2	--	--
	2006	1,338	468.7	146.1	399.2	--	--
Mixed Use Alternative Total Emissions (tons per year)	2001	1,338	562.2	146.3	399.5	0.1	--
	2006	1,338	562.2	146.3	399.5	0.1	--

Table H-10. Industrial Manufacturing Land Use Emission Factors and Reuse-Related Emissions

Page 2 of 2

Land Use/Source Category	Year	Employees	VOC	NO_x	CO	SO_2	PM_{10}
Industrial Manufacturing Land Use							
Industrial Alternative[c]	2001	1,006	70.3	0.2	0.3	0.0	--
Point Source Emissions	2006	1,341	93.7	0.2	0.3	0.1	--
(tons per year)							
Industrial Alternative Area/	2001	1,006	352.4	109.9	300.2	--	--
Off-Road Mobile Source Emissions	2006	1,341	469.7	146.5	400.1	--	--
(tons per year)							
Industrial Alternative[c]	2001	1,006	422.7	110.1	300.5	0.0	--
Total Emissions (tons per year)	2006	1,341	563.4	146.7	400.4	0.1	--

Notes: (a) Point source emissions are based on data available from the U.S. EPA's Graphical Aerometric Data System (EGADS) for industries in the ROI considered representative of potential reuse-related industrial land use industry types.

(b) Area/off-road mobile source emissions are based on data available from the U.S. EPA's EGADS for SCC codes in the ROI considered representative of potential reuse-related industrial manufacturing land use sources.

(c) Emissions of 0.0 tons per year indicate emissions are less than 0.05 tons per year.

CO = carbon monoxide
NA = not applicable
ND = no data
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
ROI = region of influence
SO_2 = sulfur dioxide
VOC = volatile organic compound

Table H-11. Light Industrial/Warehousing Land Use Emission Factors and Reuse-Related Emissions
Page 1 of 2

Land Use/Source Category	Year	Employees	VOC	NO_x	CO	SO_2	PM_{10}
Light Industrial/Warehousing Land Use							
ROI Point Source Emissions[a] (tons per year)	NA	17,787	1,475	4.1	6.0	1.0	ND
Per Employee Point Source Factor (tons per employee per year)	NA	17,987	0.08368	0.00023	0.00034	0.00005	--
ROI Area/Off-Road Mobile Sources[b] (tons per year)	NA	17,987	4,128	415.5	6,750	ND	ND
Per Employee Area/Off-Road Mobile Source Factor (tons per employee per year)	NA	17,987	0.23420	0.02357	0.38292	--	--
Proposed Action Point Source Emissions[c] (tons per year)	2001	0	0	0	0	0	--
	2006	229	19.2	0.1	0.1	0.0	--
Proposed Action Area/Off-Road Mobile Source Emissions (tons per year)	2001	0	0	0	0	--	--
	2006	229	53.6	5.4	87.7	--	--
Proposed Action Total Emissions[c] (tons per year)	2001	0	0	0	0	0	--
	2006	229	72.8	5.5	87.8	0.0	--
Mixed Use Alternative Point Source Emissions (tons per year)	2001	0	0	0	0	0	--
	2006	0	0	0	0	0	--
Mixed Use Alternative Area/ Off-Road Mobile Source Emissions (tons per year)	2001	0	0	0	0	--	--
	2006	0	0	0	0	--	--
Mixed Use Alternative Total Emissions (tons per year)	2001	0	0	0	0	0	--
	2006	0	0	0	0	0	--

Table H-11. Light Industrial/Warehousing Land Use Emission Factors and Reuse-Related Emissions

Page 2 of 2

Land Use/Source Category	Year	Employees	VOC	NO_x	CO	SO_2	PM_{10}
Light Industrial/Warehousing Land Use							
Industrial Alternative[c]	2001	91	7.6	0.0	0.0	0.0	--
Point Source Emissions[c]	2006	121	10.1	0.0	0.0	0.0	--
(tons per year)							
Industrial Alternative Area/	2001	91	21.3	2.1	34.8	--	--
Off-Road Mobile Source Emissions	2006	121	28.3	2.9	46.3	--	--
(tons per year)							
Industrial Alternative[c]	2001	91	28.9	2.1	34.8	0.0	--
Total Emissions (tons per year)[c]	2006	121	38.4	2.9	46.3	0.0	--

Notes: (a) Point source emissions are based on data available from the U.S. EPA's Graphical Aerometric Data System (EGADS) for industries in the ROI considered representative of potential reuse-related light industrial/warehousing land use industry types.

(b) Area/off-road mobile source emissions are based on data available from the U.S. EPA's EGADS for SCC codes in the ROI considered representative of potential reuse-related light industrial/warehousing land use sources.

(c) Emissions of 0.0 tons per year indicate emissions are less than 0.05 tons per year.

CO = carbon monoxide
NA = not applicable
ND = no data
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
ROI = region of influence
SO_2 = sulfur dioxide
VOC = volatile organic compound

negligible in magnitude. It is further assumed that no point source emissions will be associated with other types of land use areas.

Area and off-road mobile source emissions associated with the industrial manufacturing, light industrial/warehousing, commercial, and residential land use areas were also calculated from information contained in the EGADS database. Per employee area/off-road mobile source emission factors were developed by summing the area/off-road mobile source emissions data reported for all source classification codes representative of industry types that could be located in the industrial manufacturing, light industrial/ warehousing, and commercial land use areas of the former station and dividing by the total number of employees associated with these industries. The major emission source types considered in this manner for the industrial manufacturing land use included stationary natural gas fuel combustion, off-highway gasoline and diesel vehicles, food production, surface coating operations, degreasing, and solvent use. Source types considered for the light industrial/warehousing land use area included off-highway gasoline vehicles, food production, surface coating operations, degreasing, and solvent use. For the commercial land use area, various solvent degreasing sources were included. Per resident area/off-road mobile source emission factors were developed for the residential land use area by summing the area/off-road mobile source emissions data for source classification codes representative of source types that could be found in residential areas and dividing by the total number of residents associated with these sources. The major emission source types considered in this manner for the residential land use area included stationary natural gas and distillate oil fuel combustion, off-highway gasoline and diesel vehicles, and miscellaneous solvent use. The area/off-road mobile source emission factors and calculated emissions are presented in Tables H-10, H-11, H-12, and H-13 for the industrial manufacturing, light industrial/warehousing, commercial, and residential land use areas, respectively. It is assumed that future SO_2 and PM_{10} area/off-road mobile source emissions associated with these land use areas would be negligible in magnitude. It is further assumed that no area/off-road mobile source emissions will be associated with other types of land use areas.

Emissions associated with employee vehicles for the reuse-related alternatives were calculated with the MOBILE5A model using the same methodology as described above for preclosure conditions. It was necessary to run the MOBILE5A model specific to each alternative to account for the change in employees and the planned decrease in emission factors that will occur in future years due to more stringent tailpipe exhaust requirements.

Summaries of the 2001 and 2006 number of vehicles and VMT associated with each reuse alternative are provided in Table H-7. Total VMT emissions expected from the Proposed Action and alternatives in the years 2001 and 2006 are contained in Table H-8.

Table H-12. Commercial Land Use Emission Factors and Reuse-Related Emissions

Land Use/Source Category	Year	Employees	VOC	NO_x	CO	SO_2	PM_{10}
Commercial Land Use							
ROI Area/Off-Road Mobile Sources[a] (tons per year)	NA	27,514	3.9	0	0	--	--
Per Employee Area/Off-Road Mobile Source Factor (tons per employee per year)	NA	27,514	0.00014	0.00000	0.00000	--	--
Proposed Action Area/Off-Road	2001	720	0.1	0	0	--	--
Mobile Source Emissions (tons per year)	2006	1,379	0.2	0	0	--	--
Mixed Use Alternative Area/Off-Road	2001	691	0.1	0	0	--	--
Mobile Source Emissions (tons per year)	2006	1,382	0.2	0	0	--	--
Industrial Alternative Area/Off-Road	2001	700	0.1	0	0	--	--
Mobile Source Emissions (tons per year)	2006	1,000	0.1	0	0	--	--

Note: (a) Area/off-road mobile source emissions are based on data available from the U.S. EPA's Graphical Aerometric Data System for SCC codes in the ROI considered representative of potential reuse-related commercial land use sources.

CO = carbon monoxide
NA = not applicable
ND = no data
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
ROI = region of influence
SO_2 = sulfur dioxide
VOC = volatile organic compound

Table H-13. Residential Land Use Emission Factors and Reuse-Related Emissions

Land Use/Source Category	Year	Residents	VOC	NO_x	CO	SO_2	PM_{10}
Residential Land Use							
ROI Area/Off-Road Mobile Sources[a] (tons per year)	NA	952,200	7,760	1,809	17,111	ND	ND
Per Resident Area/Off-Road Mobile Source Factor (tons per resident per year)	NA	952,200	0.00815	0.00190	0.01797	--	--
Proposed Action Area/Off-Road Mobile Source Emissions (tons per year)	2001 2006	0 0	0 0	0 0	0 0	-- --	-- --
Mixed Use Alternative Area/Off-Road Mobile Source Emissions (tons per year)	2001 2006	350 700	2.9 5.7	0.7 1.3	6.3 12.6	-- --	-- --
Industrial Alternative Area/Off-Road Mobile Source Emissions (tons per year)	2001 2006	35 70	0.3 0.6	0.1 0.1	0.6 1.3	-- --	-- --

Note: (a) Area/off-road mobile source emissions are based on data available from the U.S. EPA's Graphical Aerometric Data System for SCC codes in the ROI considered representative of potential reuse-related residential land use sources.

CO = carbon monoxide
NA = not applicable
ND = no data
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_2 = sulfur dioxide
VOC = volatile organic compound

Summaries of the total emissions associated with the Proposed Action, Mixed Use Alternative, and Industrial Alternative are provided in Tables H-14, H-15, and H-16, respectively.

Table H-14. Proposed Action Emissions

	Emissions (tons per year)				
Year/Source	VOC	NO_x	CO	SO_2	PM_{10}
2001					
Construction	0.9	3.4	11.8	0.3	0.9
Industrial Manufacturing	593.7	154.5	422.0	0.1	--
Light Industrial	0.0	0.0	0.0	0.0	--
Commercial	0.1	0.0	0.0	--	--
Residential	0.0	0.0	0.0	--	--
Mobile(Commuter) On-Station	1.6	3.3	14.9	negl.	negl.
Mobile (Commuter) Off-Station	11.8	26.1	102.9	negl.	negl.
Total	608.1	187.3	551.6	0.4	0.9
2006					
Construction	0.6	2.3	8.0	0.2	0.6
Industrial Manufacturing	791.6	206.1	562.6	0.1	--
Light Industrial/Warehousing	72.8	5.5	87.8	0.0	--
Commercial	0.2	0.0	0.0	--	--
Residential	0.0	0.0	0.0	--	--
Mobile(Commuter) On-Station	2.0	3.7	19.2	negl.	negl.
Mobile (Commuter) Off-Station	13.7	33.1	118.3	negl.	negl.
Total	880.9	250.7	795.9	0.3	0.6

CO = carbon monoxide
negl. = negligible
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_2 = sodium dioxide
VOC = volatile organic compound

Table H-15. Mixed Use Alternative Emissions

Year/Source	VOC	NO_x	CO	SO_2	PM_{10}
	Emissions (tons per year)				
2001					
Construction	1.5	5.8	20.3	0.5	1.6
Industrial Manufacturing	562.2	146.3	399.5	0.1	--
Light Industrial/Warehousing	0.0	0.0	0.0	0.0	--
Commercial	0.1	0.0	0.0	--	--
Residential	2.9	0.7	6.3	--	--
Mobile(Commuter) On-Station	1.4	2.8	12.6	negl.	negl.
Mobile (Commuter) Off-Station	10.0	22.1	87.0	negl.	negl.
Total	578.1	177.7	525.7	0.6	1.6
2006					
Construction	0.6	2.1	7.3	0.2	0.6
Industrial Manufacturing	562.2	146.3	399.5	0.1	--
Light Industrial	0.0	0.0	0.0	0.0	--
Commercial	0.2	0.0	0.0	--	--
Residential	5.7	1.3	12.6	--	--
Mobile(Commuter) On-Station	1.4	2.6	13.3	negl.	negl.
Mobile (Commuter) Off-Station	9.5	22.9	81.9	negl.	negl.
Total	579.6	175.2	514.6	0.3	0.6

CO = carbon monoxide
negl. = negligible
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_2 = sodium dioxide
VOC = volatile organic compound

Table H-16. Industrial Alternative Emissions

Year/Source	Emissions (tons per year) VOC	NO_x	CO	SO_2	PM_{10}
2001					
Construction	1.2	4.6	16.0	0.4	1.3
Industrial Manufacturing	422.7	110.1	300.5	0.0	--
Light Industrial	28.9	2.1	34.8	0.0	--
Commercial	0.1	0.0	0.0	--	--
Residential	0.3	0.1	0.6	--	--
Mobile(Commuter) On-Station	1.3	2.6	11.7	negl.	negl.
Mobile (Commuter) Off-Station	9.2	20.4	80.3	negl.	negl.
Total	463.7	139.9	443.9	0.4	1.3
2006					
Construction	0.3	1.2	4.2	0.1	0.3
Industrial Manufacturing	563.4	146.7	400.4	0.1	--
Light Industrial	38.4	2.9	46.3	0.0	--
Commercial	0.1	0.0	0.0	--	--
Residential	0.6	0.1	1.3	--	--
Mobile(Commuter) On-Station	1.3	2.4	12.4	negl.	negl.
Mobile (Commuter) Off-Station	8.9	21.4	76.5	negl.	negl.
Total	613.0	174.7	541.1	0.2	0.3

CO = carbon monoxide
negl. = negligible
NO_x = nitrogen oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
SO_2 = sodium dioxide
VOC = volatile organic compound

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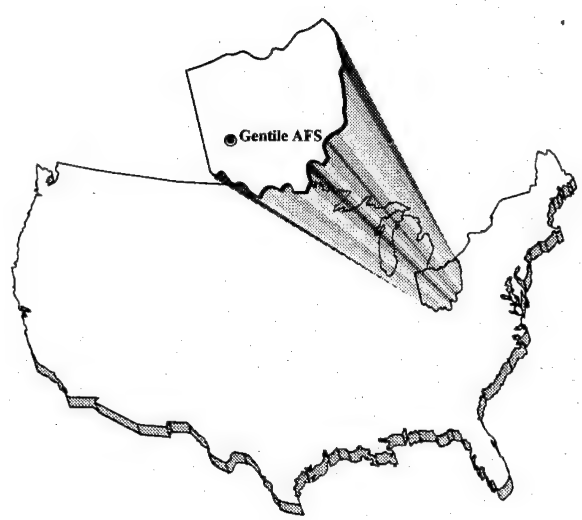

APPENDIX I

APPENDIX I

AGENCY LETTERS AND CONSULTATION

Ohio Historic Preservation Office

1982 Velma Avenue
Columbus, Ohio 43211
614/297-2470

OHIO
HISTORICAL
SOCIETY
SINCE 1885

June 28, 1989

Thomas Baker
Chief, Engineering Resource Management Office
DESC/WIR
1507 Wilmington Pike
Dayton, Ohio 45444

Dear Mr. Baker:

Re: 2125 Wilmington Pike, Dayton, Ohio 45444
Robert Bradford/John Stoneberger Residence

This letter is in response to the Ohio Historic Inventory form submitted for the property noted above that was received in our office on June 6, 1989. My staff has reviewed the information provided. It is our opinion that this building does not meet the criteria for listing in the National Register of Historic Places. No further coordination with our office is required.

Any questions concerning this matter should be addressed to Catherine Stroup at the number noted above. Thank you for your cooperation.

Sincerely,

W. Ray Luce

W. Ray Luce
State Historic Preservation Officer

WRL/CAS/cs

United States Department of the Interior

BUREAU OF MINES
Intermountain Field Operations Center
P.O. Box 25086
Building 20, Denver Federal Center
Denver, Colorado 80225

December 02, 1993

Lt Co. Gary P. Baumgartel
AFCEE/ESE, 8106 Chennault Road
Brooks AFB TX 78235-5318

Dear Lt Co. Baumgartel:

Subject: Notice of Intent to Prepare an Environmental Impact Statement for Disposal and Reuse of Seven Air Force Bases (ER 93/903)

Personnel of the Bureau of Mines, reviewed the Notice of Intent (NOI) for possible conflict with mineral resources and mineral-producing facilities, as requested by the Director, Office of Environmental Affairs, Department of the Interior. In some instances various mineral resources are situated on or near the Air Force base being considered for disposal.

Preliminary review of available data suggests that the mineral resources included below should be considered during preparation of the various environmental documents.

<u>Gentile AFB Station</u> - Dayton, Montgomery County, Ohio:
Nine sand and gravel pits and four limestone quarries are active in the county. According to state records, about 2.5 million tons of construction aggregates were produced in the county in 1992. Base closure is not expected to significantly affect area mineral resources.

<u>Griffiss AFB</u> - Rome, Oneida County, New York:
At least 12 companies are currently producing construction sand and gravel from 16 pits in Oneida County. At least three of these operations are near the town of Rome. Beazer USA/Hanson is mining crushed limestone southeast of Griffiss in the vicinity of the town of Oriskany. Industrial sand is produced 15 miles west of Rome near the town of McConnellsville. Area mineral resources are not expected to be significantly affected by base closure.

<u>March AFB</u> - Riverside, Riverside County, California:
The area is underlain by sand and gravel. USGS topographic maps of the area show at least five gravel pits and one quarry near the western side of the base. Two pipelines on the north side of the base also are shown on area USGS topographic maps. Area mineral resources and pipeline operations probably would not be significantly impacted by base closure.

<u>Newark AFB</u> - Newark, Licking County, Ohio:
Four sand & gravel pits, one salt brine operation, and one clay operation are active in the county. One sand and gravel pit and the salt operation are near Newark. No significant impact to mineral resources is expected with base closure.

<u>K. I. Saywer AFB</u> - Marquette, Marquette County, Michigan:
The area of the base is covered by glacially derived material. Four sand and gravel pits, near the western side of the base, are shown on USGS topographic maps of the area. Sand and gravel, mined in the vicinity of the base, probably was used as fill material for base construction. Significant impacts to mineral resources in the area are not expected with base closure.

<u>O'Hare International Airport AF Reserve Station</u> - Chicago, Illinois:
Deposits of clay, limestone/dolomite, and sand and gravel have been mined in the Chicago area. USGS topographic maps of the area show at least one clay pit on the eastern side of the O'Hare International Airport complex, a quarry is shown four miles to the south in the community of Elmhurst, and a large pit area (possible quarry) is about four miles to the north in the Northfield area. Again, no impact is expected to mineral resources with base closure.

<u>Plattsburg AFB</u> - Plattsburg, Clinton County, New York:
Construction sand and gravel is mined by four companies operating six pits in Clinton County. At least four of the operations are in the vicinity of the town of Plattsburg. Plattsburg Quarries Inc. currently mines crushed limestone near Plattsburg. Most of the crushed stone is used for concrete and bituminous aggregate and roadbase. Base closure is not expected to significantly affect mineral resources in the area.

A discussion should be included in the planned Environmental Impact Statement stating whether these or any other mineral resources are present on the affected bases and how they would be affected by disposal and reuse. If no adverse impacts to mineral resources are identified, a statement to that effect should be included.

We appreciate this opportunity to provide comments on the proposed project. Our comments are drawn from available information, are provided on a technical assistance basis only, and may not reflect the position of the Department of the Interior.

If you have questions regarding this review, please contact Robert Wood at (303) 236-0451.

Mark H. Hibpshman
Mark H. Hibpshman
Supervisory Physical Scientist

OHIO Department of Natural Resources

George V. Voinovich • *Governor*
Frances S. Buchholzer • *Director*

January 4, 1994

William A. Myers, Acting Chief
HQ AFCEE/ESE
8106 Chennault Road
Brooks AFB, TX 78235-5318

Dear Mr. Myers:

After reviewing our maps and files, I find the Division of Natural Areas and Preserves has no records of rare and endangered species in the Gentile Air Force Station Disposal and Reuse project area.

There are no existing or proposed nature preserves or scenic rivers in the project area, and we are unaware of any unique ecological sites in the vicinity of the Kettering, Montgomery County site.

Your letter requested information about local organizations and individuals who are knowledgeable about the biota in the project area. You might wish to contact Dr. James Amon, Wright State University, Department of Biological Sciences, Dayton, OH 45435, telephone (513) 873-2655, or Mr. Dave Nolin, Dayton-Montgomery Park District, 1375 E. Siebenthaler Avenue, Dayton, OH 45414, telephone (513) 278-8231.

Because our inventory program relies on information supplied by a number of individuals and organizations, a lack of records for any particular area is not a statement that special plant or animal species are absent from a site. Please note that we inventory only high-quality plant communities and do not maintain an inventory of all Ohio wetlands.

Please contact me at (614) 265-6409 if I can be of further assistance.

Sincerely,

Jennifer Hillmer

Jennifer Hillmer, Ecological Analyst
Division of Natural Areas and Preserves

JH/kh

Ohio Historic Preservation Office

Ohio Historical Center
1982 Velma Avenue
Columbus, Ohio 43211-2497
614/297-2470
Fax: 297-2546

OHIO HISTORICAL SOCIETY
SINCE 1885

February 1, 1994

Gary P. Baumgartel, Lt Col, USAF
Chief, Environmental Planning Division
HQ AFCEE/ESE
8106 Chennault Road
Brooks Air Force Base, Texas 78235-5318

Dear Mr. Baumgartel:

Re: Gentile Air Force Station, Kettering, Ohio

This is in response to your letter dated December 22, 1993 requesting information on cultural resources within the Air Force Station area. Our comments are submitted in accordance with the provision of Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800).

We have checked the Ohio Archaeological Inventory files. There are no known archaeological sites on the project area nor are any properties listed on the National Register of Historic Places. This is not to say that archaeological sites do not exist, rather that no surveys have been undertaken. A number of sites are known in the vicinity of Kettering, suggesting that potentially significant sites may also exist in undisturbed portions of the study area. Before we can make any recommendations for survey we need more information about the previous land use in the southern part of the project area. What is the level of ground disturbance?

Our records show that one building, the Commander's Residence, has been inventoried. A copy of the inventory form is enclosed. Before we can comment about the remainder of the buildings we will need front and rear elevation photos of all buildings. We also need a history of the station. Enclosed are blank Ohio Historic Inventory forms which the buildings may be recorded on.

If you have any questions please contact Julie Quinlan at the above number. Her hours are from 5:00 a.m.-1:00 p.m. Thank you for your cooperation.

Sincerely,

Martha J. Raymond

Martha Raymond, Department Head
Technical and Review Services

enclosures

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
6950-H Americana Parkway
Reynoldsburg, Ohio 43068

IN REPLY REFER TO:

COMM: 614/469-6923 FAX: 614/469-6919

February 23, 1994

Mr. William A. Myers, AICP, Acting Chief
Environmental Planning Division
HQ AFCEE/ESE, Dept. of the Air Force
8106 Chennault Road
Brooks Air Force Base, Texas 78235-5318

Dear Mr. Myers:

This letter responds to your December 1993 request for information on threatened and endangered species. Your request is related to an EIS currently underway which examines alternatives for reuse or disposal of Gentile Air Force Station in Montgomery County, Ohio.

This technical assistance letter is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act, of 1973, as amended.

Endangered or Threatened Species

Our files show the following Federally listed species to be of concern in the general area of Gentile Air Force Station.

ENDANGERED

Indiana bat (Myotis sodalis)
Peregrine falcon (Falco peregrinus)
Clubshell mussel (Pleurobema clava)
Running buffalo clover (Trifolium stoloniferum)

THREATENED

Eastern prairie fringed orchid (Platanthera leucophaea)

We will not know whether or not the above species will be affected by reuse or disposal until you coordinate further with our office. Such coordination may be required on a project by project basis in order to fulfill consultation requirements of the Endangered Species Act, as amended.

Candidate Species

Though action is not required for candidate species, we provide the following comment for your information. Our files show Montgomery County to be within the range of the following Federal Category 2 candidate species.

REPTILES:	Kirtland's snake (Clonophis kirtlandii) Eastern massasauga (Sistrurus catenatus)
MUSSELS:	Snuffbox (Epioblasma triquetra) Rayed bean (Villosa fabalis)
PLANTS:	Royal catchfly (Silene regia) Glade mallow (Napaea diocia)

Additional Comments

Two divisions of the Ohio Department of Natural Resources, the Division of Wildlife (DOW, 614-265-6300) and the Division of Natural Areas and Preserves (DNAP, 614-265-6472), maintain lists of plants and animals of concern to the State of Ohio. The Ohio Environmental Protection Agency (OEPA, 614-644-2856) also maintains lists of fish and invertebrate species found in many of Ohio's rivers and streams. If you have not already done so, please contact each of these agencies to obtain site-specific information on species of State concern.

If we can be of further assistance, please feel free to contact Buddy B. Fazio at this office.

Sincerely,

Kent C. Kroonemeyer

Kent E. Kroonemeyer
Supervisor

cc: DOW, Wildlife Environmental Section, Columbus, OH
ODNR, Office of Realty and Land Management, Columbus, OH
Ohio EPA, Water Quality Monitoring, Attn: G.Hesse, Columbus, OH
US EPA, Office of Environmental Review, Chicago, IL

Ohio Historic Preservation Office

Ohio Historical Center
1982 Velma Avenue
Columbus, Ohio 43211-2497
614/297-2470
Fax: 297-2546

OHIO HISTORICAL SOCIETY
SINCE 1885

July 29, 1994

Mr. Bruce R. Leighton
Environmental Conservation and Planning Directorate
HQ AFCEE/EC
8106 Chennault Road
Brooks AFB, TX 78235-5318

Re: Receipt of Final Report
Buildings 44 and 47, Gentile AFS, Kettering, Montgomery County, Ohio

Dear Mr. Leighton,

This is in response to correspondence from your office dated June 17, 1994 (received June 22) regarding the above referenced project. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]); the Air Force serves as the lead federal agency. My staff has reviewed this project, and I offer the following comments.

As we noted in our concurrence dated April 26, 1994, the proposed project will have no effect on any property eligible for inclusion or included in the National Register of Historic Places. The receipt of the final report completes the Section 106 correspondence for this project. The final report, which is dated June 16, 1994, provides a thoughtful discussion of the eligibility of the buildings in questions and includes informative photographs. Your efforts to provide the report are appreciated.

Any questions concerning this matter should be addressed to Saul Gleiser, Julie Quinlan, or David Snyder at (614) 297-2470, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

Martha J. Raymond

Martha J. Raymond, Department Head
Technical and Review Services

MJR/DMS:ds

xc: Ron DiBenedetto, HQ AFCEE/ECP, 8106 Chennault Road, Brooks AFB, TX 78235-5318
William Manley, 3227 Bancroft Street, Suite 111, San Diego, CA 92104-4729

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
6950-H Americana Parkway
Reynoldsburg, Ohio 43068

IN REPLY REFER TO:

COMM: 614/469-6923 FAX: 614/469-6919

February 10, 1995

Terry Armstrong, Lt. Col., USAF
Director
Environmental Conservation and Planning
HQ AFCEE/EC
8106 Chennault Road
Brooks AFB, Texas 78235-5318

Dear Terry Armstrong:

This responds to your January 18, 1995, letter requesting our concurrence with your Federally listed species findings for Gentile Air Force Station. Gentile AFS is located in the Dayton, Ohio suburb of Kettering in Montgomery County. Your request is in relation to an EIA process for disposal and reuse of Gentile AFS.

This technical assistance letter is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act, of 1973, as amended, and is consistent with the intent of the National Environmental Policy Act of 1969, and the U. S. Fish and Wildlife Service's Mitigation Policy.

We concur with your Attachment 2 findings for the Clubshell mussel, Peregrine Falcon, and Running buffalo clover. However, if jurisdictional wetlands, wet meadows or trees exist along Little Beaver Creek, there exists potential to find the Indiana bat or eastern prairie fringed orchid. We suggest a quick inspection by qualified biologists to ascertain Beaver Creek's habitat potential on Gentile AFS.

Summer habitat requirements for the Indiana bat are somewhat different in Ohio compared to summer habitat in Missouri. The following are thought to be important Indiana bat summer habitat components in Ohio.

1. Dead trees and snags along riparian corridors, especially those with cavities or exfoliating bark which may be used as maternity roosts.

2. Live trees (such as shagbark hickory) which have cavities or exfoliating bark.

3. Stream corridors, riparian areas, and nearby woodlots which provide forage sites.

Considering the above items, we recommend that if trees with cavities or exfoliating bark exist along Beaver Creek on Gentile AFS, they be conserved wherever possible. If such trees must be cut for any future reason, cutting should occur before April 15 and after September 15 to minimize impacts on Indiana bats.

If we can be of further assistance, please contact endangered species biologist Buddy B. Fazio at this office.

Sincerely,

Ken Mullen

for Kent E. Kroonemeyer
Supervisor

cc: DOW, Wildlife Environmental Section, Columbus, OH
ODNR, Division of Real Estate and Land Management, Columbus, OH
Ohio Division of Natural Areas and Preserves, Columbus, OH
Ohio EPA, Water Quality Monitoring, Attn: G.Hesse, Columbus, OH
US EPA, Office of Environmental Review, Chicago, IL

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

4690 North Union Road
Trotwood, Ohio 45426
Tele: (513)854-7645
FAX: (513)854-3305

June 8, 1995

Mr. William A. Myers, AICP
Chief, Conservation & Planning Division
Environmental Conservation & Planning Directorate
Brooks Air Force Base
HQ AFCEE/EC
8106 Chennault Road
Brooks AFB, TX 78235-5318

RE: Submittal of Form AD-1006 on Gentile AF Station - Kettering, Montgomery County, Ohio

Dear Mr. Myers,

After our review of aerial photography and discussion with Mr. George Gauger, we have determined that there is no land on Gentile Air Force Station that would be classified as farmland and be covered under FPPA. I have made comments on the AD-1006 form to so indicate.

If our office can be of further assistance, please let me know.

Sincerely,

Steve Boeder

Steve Boeder
District Conservationist

cc. File

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request
Name Of Project: Gentile AFS Disposal add Reuse	Federal Agency Involved: U.S. Air Force
Proposed Land Use: Commercial/Industrial	County And State: Montgomery County, Ohio
PART II *(To be completed by SCS)*	Date Request Received By SCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply — do not complete additional parts of this form).*	Yes ☐ No ☐	Acres Irrigated	Average Farm Size
Major Crop*(s)*	Farmable Land In Govt. Jurisdiction Acres: %	Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By SCS	

	Maximum Points	Alternative Site Rating Site A	Site B	Site C	Site D
PART III *(To be completed by Federal Agency)*					
A. Total Acres To Be Converted Directly		0	0	0	0
B. Total Acres To Be Converted Indirectly		0	0	0	0
C. Total Acres In Site		164	164	164	164
PART IV *(To be completed by SCS)* **Land Evaluation Information**					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide And Local Important Farmland					
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value					
PART V *(To be completed by SCS)* **Land Evaluation Criterion** Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*					
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160				
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100				
Total Site Assessment *(From Part VI above or a local site assessment)*	160				
TOTAL POINTS *(Total of above 2 lines)*	260				

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

Comments:
The Gentile AF Station has no land classified as farmland and is therefore not covered by FPPA.
Stephen A Boeder

(See Instructions on reverse side)

Form AD-1006 (10-83)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 – Federal agencies involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form.

Step 2 – Originator will send copies A, B and C together with maps indicating locations of site(s), to the Soil Conservation Service (SCS) local field office and retain copy D for their files. (Note: SCS has a field office in most counties in the U.S. The field office is usually located in the county seat. A list of field office locations are available from the SCS State Conservationist in each state).

Step 3 – SCS will, within 45 calendar days after receipt of form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland.

Step 4 – In cases where farmland covered by the FPPA will be converted by the proposed project, SCS field offices will complete Parts II, IV and V of the form.

Step 5 – SCS will return copy A and B of the form to the Federal agency involved in the project. (Copy C will be retained for SCS records).

Step 6 – The Federal agency involved in the proposed project will complete Parts VI and VII of the form.

Step 7 – The Federal agency involved in the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA and the agency's internal policies.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

Part I: In completing the "County And State" questions list all the local governments that are responsible for local land controls where site(s) are to be evaluated.

Part III: In completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them.

2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities) that will cause a direct conversion.

Part VI: Do not complete Part VI if a local site assessment is used.

Assign the maximum points for each site assessment criterion as shown in §658.5(b) of CFR. In cases of corridor-type projects such as transportation, powerline and flood control, criteria #5 and #6 will not apply and will be weighed zero, however, criterion #8 will be weighed a maximum of 25 points, and criterion #11 a maximum of 25 points.

Individual Federal agencies at the national level, may assign relative weights among the 12 site assessment criteria other than those shown in the FPPA rule. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total weight points at 160.

In rating alternative sites, Federal agencies shall consider each of the criteria and assign points within the limits established in the FPPA rule. Sites most suitable for protection under these criteria will receive the highest total scores, and sites least suitable, the lowest scores.

Part VII: In computing the "Total Site Assessment Points", where a State or local site assessment is used and the total maximum number of points is other than 160, adjust the site assessment points to a base of 160. Example: if the Site Assessment maximum is 200 points; and alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site "A."}$$

Ohio Historic Preservation Office

Ohio Historical Center
1982 Velma Avenue
Columbus, Ohio 43211-2497
614/297-2470
Fax: 297-2546

OHIO
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September 7, 1995

George H. Gauger
Program Management Division
Environmental Conservation & Planning Directorate
Department of the Air Force
HQ AFCEE/ECM
8106 Chennault Road
Brooks AFB TX 78235-5318

Dear Mr. Gauger:

RE: Gentile Air Force Station, Kettering, Montgomery County

This is in response to receipt of the report "Phase I Archaeological Investigation, Gentile Air Force Station, Kettering, Montgomery County, Ohio" by Earth Technology Corporation. My staff has reviewed this information. Based on their recommendations I have the following comments submitted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800).

The survey consisted of a literature review, pedestrian survey and shovel testing of the project area. The reconnaissance survey detected various cultural artifacts, however, the provenience of these remains lacks the contextual integrity needed for archaeological synthesis. Given the data presented in the report, and the amount of disturbance at the Air Force Station, it is our finding that the project will have no effect on any properties listed or eligible for the National Register of Historic Places. No further investigation is necessary unless the scope of the project should change.

If you have any questions concerning this matter, please contact Todd Tucky at (614) 297-2470. His hours are from 8:00 a.m.-12:00 p.m. Thank you for your cooperation.

Sincerely,

Martha J. Raymond

Martha J. Raymond, Department Head
Technical and Review Services

MJR/TMT:tt

U.S. DEPARTMENT OF THE INTERIOR MARCH 3, 1849

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
6950-H Americana Parkway
Reynoldsburg, Ohio 43068

IN REPLY REFER TO:

COMM: 614/469-6923 FAX: 614/469-6919

September 8, 1995

Thomas H. Gross, Colonel, USAF
Director
Environmental Conservation and Planning
HQ AFCEE/EC
8106 Chennault Road
Brooks AFB, Texas 78235-5318

Dear Colonel Gross:

This responds to your August 28, 1995, letter requesting our second concurrence with your Federally listed species findings for Gentile Air Force Station. Gentile AFS is located in the Dayton, Ohio suburb of Kettering in Montgomery County, Ohio. Your request is in relation to an EIA process for disposal and reuse of Gentile AFS.

This technical assistance letter is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act, of 1973, as amended, and is consistent with the intent of the National Environmental Policy Act of 1969, and the U. S. Fish and Wildlife Service's Mitigation Policy.

We concur with the species findings in your August 28 letter regarding Gentile AFS. We concur that Gentile AFS contains no suitable habitat for roosting, Federally endangered Indiana bats (Myotis sodalis) and no suitable habitat for the Federally threatened eastern prairie fringed orchid (Platanthera leucophaea). Recall that we also concurred with the findings of your January 18, 1995, letter (Attachment 2) regarding no suitable habitat on Gentile AFS for the clubshell mussel(Pleurobema clava), peregrine falcon (Falco peregrinus), and Running buffalo clover (Trifolium stoloniferum). We thank you and your staff for conscientiously checking Gentile AFS for suitable habitat.

If we can be of further assistance, please contact endangered species biologist Buddy B. Fazio at this office.

Sincerely,

Kent E. Kroonemeyer

Kent E. Kroonemeyer
Supervisor

cc: DOW, Wildlife Environmental Section, Columbus, OH
ODNR, Division of Real Estate and Land Management, Columbus, OH
Ohio Division of Natural Areas and Preserves, Columbus, OH
Ohio EPA, Water Quality Monitoring, Attn: G.Hesse, Columbus, OH
US EPA, Office of Environmental Review, Chicago, IL

Ohio Historic Preservation Office

Ohio Historical Center
1982 Velma Avenue
Columbus, Ohio 43211-2497
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Fax: 297-2546

OHIO HISTORICAL SOCIETY
SINCE 1885

September 20, 1995

Mr. George H. Gauger
Environmental Conservation and Planning Directorate
Headquarters Air Force Center for Environmental Excellence
3207 North Road
Brooks AFB, TX 78235-5363

Dear Mr. Gauger:

RE: Gentile Air Force Station, Montgomery County, Ohio

This is in response to your letter of August 18, 1995 concerning the proposed project. Our comments are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act, as amended (36 CFR 800). The lead agency is the Economic Development Administration.

My staff reviewed the survey report, "Historic Building Inventory and Evaluation, Gentile Air Force Station, Montgomery County, Ohio" by William Manley Consulting and Earth Tech. Based on the information provided, none of the current facilities meet the criteria for listing on the National Register of Historic Places. It is our opinion that the reuse of the facility will have no effect on any historic properties listed or eligible for the National Register of Historic Places. No further coordination is required for the project unless the scope of the work changes or archaeological remains are discovered during the course of the project. In such a situation, this office must be contacted as per 36 CFR 800.11.

If you have any questions concerning this project, please contact Julie Quinlan or Todd Tucky at (614) 297-2470, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

Martha J. Raymond

Martha J. Raymond, Department Head
Technical and Review Services

MJR/JAQ/TMT:tt

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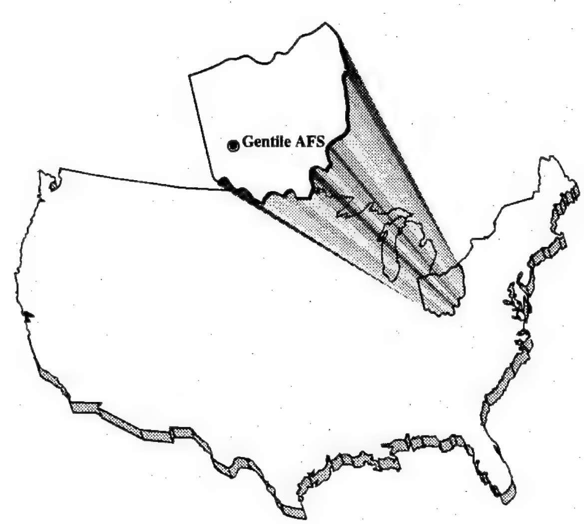


APPENDIX J

APPENDIX J

INFLUENCING FACTORS AND ENVIRONMENTAL IMPACTS BY LAND USE CATEGORY

APPENDIX J

INFLUENCING FACTORS AND ENVIRONMENTAL IMPACTS BY LAND USE CATEGORY

INTRODUCTION

The purpose of this appendix is to quantify the environmental impacts of each land use category identified for the Proposed Action, Mixed Use Alternative, and Industrial Alternative evaluated in this Environmental Impact Statement (EIS). The data in Tables J-1 through J-14 present the impacts of individual land use activities such as industrial, commercial, or residential on their respective Regions of Influence and allow comparison of the impacts of the Proposed Action and alternative for three benchmark years, 2001, 2006, and 2016, where applicable. Land use categories for each alternative are illustrated in Figures J-1 to J-3.

Tables J-1 through J-4 present data on the influencing factors (factors that drive environmental impacts); Tables J-5 through J-14 list the impacts on individual environmental resources evaluated in the EIS. These resources include transportation, utilities, hazardous materials and hazardous waste management, geology and soils, and biological resources. Included in this appendix is at least one table for each resource area, except water resources, air quality, and cultural resources. Data on water demand are presented as part of the utilities analysis; the effects on surface and groundwater resources in and around the station have not been quantified in the EIS and have not been included in this appendix. The air emissions associated with each alternative for each benchmark year are described in detail in Appendix I and have not been included in this appendix. No cultural resources have been identified at Gentile AFS.

No quantification is provided in Table J-11, Hazardous Materials Usage, because quantities generated will depend on the type and intensity of industrial and commercial activities developed on the site. Table J-11 presents a generalized description of the hazardous materials used under individual land use categories. Table J-12 summarizes the number of Installation Restoration Program sites and Potential Contamination Sites identified on the station as of 1995, but does not give the likely status of these sites in 2001, 2006, and 2016.

Table J-1. Direct Employment by Land Use Category

Land Use Category	2001			2006			2016		
	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	1,435	1,358	1,107	2,113	1,338	1,462	2,113	1,338	1,462
Commercial	742	712	707	1,379	1,385	1,000	1,379	1,731	1,000
Residential	NA	0	NA	NA	0	NA	NA	0	NA
Public facilities/recreation	500	500	500	500	500	500	500	500	500
Federal	1,250	750	750	1,750	750	750	1,750	750	750
Total	3,927	3,320	3,064	5,742	3,973	3,712	5,742	4,319	3,712

Note: Includes total on-station operational jobs.
Alt. 1 = Mixed Use Alternative
Alt. 2 = Industrial Alternative
NA = not applicable
P.A. = Proposed Action

Table J-2. Total Employment by Land Use Category

	2001			2006			2016		
Land Use Category	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	3,735	3,603	2,840	5,408	3,441	3,807	5,408	3,396	3,807
Commercial	1,932	1,889	1,813	3,530	3,562	2,106	3,530	4,394	2,106
Residential	NA	0	0	NA	0	0	NA	0	0
Public facilities/recreation	1,301	1,327	1,282	1,280	1,286	1,302	1,280	1,270	1,302
Federal	3,253	1,990	1,923	4,479	1,928	1,953	4,479	1,904	1,953
Total	10,221	8,809	7,858	14,697	10,217	9,168	14,697	10,964	9,168

Note: Total employment includes direct and secondary employment.
Alt. 1 = Mixed Use Alternative
Alt. 2 = Industrial Alternative
NA = not applicable
P.A. = Proposed Action

Table J-3. Population In-migration by Land Use Category

Land Use Category	2001			2006			2016		
	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	253	204	237	381	248	298	404	284	316
Commercial	164	139	69	246	171	87	261	196	93
Residential	NA	95	23	NA	116	29	NA	133	31
Public facilities/recreation	164	133	190	246	163	239	261	187	255
Federal	164	63	58	246	77	73	261	89	77
Total	745	634	577	1,119	775	726	1,187	889	772

Alt. 1 = Mixed Use Alternative
Alt. 2 = Industrial Alternative
NA = not applicable
P.A. = Proposed Action

Table J-4. Land Use Impacts by Land Use Category (acres of absorption)

Land Use Category	2001			1996-2006			1996-2016		
	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	48	51	52	67	51	68	67	51	68
Commercial	21	31	15	37	47	20	37	54	20
Residential	NA	13	3	NA	25	6	NA	25	6
Public facilities/recreation	36	17	53	36	17	53	36	17	53
Federal	17	17	17	24	17	17	24	17	17
Total	122	129	140	164	157	164	164	164	164

Note: Total acres based on estimated absorption rates; therefore, the total acres absorbed may not equal the entire station property acreage.

Alt. 1 = Mixed Use Alternative
Alt. 2 = Industrial Alternative
NA = not applicable
P.A. = Proposed Action

Table J-5. Transportation Impacts by Land Use Category (Average Daily Vehicular Traffic)

Land Use Category	2001			2006			2016		
	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	4,231	2,796	2,456	6,332	2,796	3,275	6,332	2,796	3,275
Commercial	2,556	2,060	2,254	4,896	4,120	3,220	4,896	5,149	3,220
Residential	NA	894	134	NA	1,788	267	NA	1,788	267
Public facilities/recreation	748	732	774	748	732	774	748	732	774
Federal	3,821	1,854	1,854	4,955	1,854	1,854	4,955	1,854	1,854
Total	11,356	8,336	7,472	16,931	11,290	9,390	16,931	12,319	9,390

Alt. 1 = Mixed Use Alternative
Alt. 2 = Industrial Alternative
NA = not applicable
P.A. = Proposed Action

Table J-6. Water Consumption by Land Use Category (gallons per day)

Land Use Category	2001			2006			2016		
	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	72,000	78,200	83,300	104,400	105,400	107,800	108,000	108,800	107,800
Commercial	54,000	59,800	32,300	78,300	80,600	41,800	81,000	83,200	41,800
Residential	NA	39,100	15,300	NA	52,700	19,800	NA	54,400	19,800
Public facilities/recreation	20,000	23,000	17,000	29,000	31,000	22,000	30,000	32,000	22,000
Federal	54,000	29,900	22,100	78,300	40,300	28,600	81,000	41,600	28,600
Total	200,000	230,000	170,000	290,000	310,000	220,000	300,000	320,000	220,000

Note: Numbers represent reuse-related demand in the Region of Influence.

Alt. 1 = Mixed Use Alternative

Alt. 2 = Industrial Alternative

NA = not applicable

P.A. = Proposed Action

Table J-7. Wastewater Generation by Land Use Category (gallons per day)

Land Use Category	2001			2006			2016		
	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	57,600	64,600	68,600	86,400	88,400	83,300	90,000	91,800	88,200
Commercial	43,200	49,400	26,600	64,800	67,600	32,300	67,500	70,200	34,200
Residential	NA	32,300	12,600	NA	44,200	15,300	NA	45,900	16,200
Public facilities/recreation	16,000	19,000	14,000	24,000	26,000	17,000	25,000	27,000	18,000
Federal	43,200	24,700	18,200	64,800	33,800	22,100	67,500	35,100	23,400
Total	160,000	190,000	140,000	240,000	260,000	170,000	250,000	270,000	180,000

Note: Numbers represent reuse-related wastewater generation.
Alt. 1 = Mixed Use Alternative
Alt. 2 = Industrial Alternative
NA = not applicable
P.A. = Proposed Action

Table J-8. Solid Waste Disposal by Land Use Category (pounds per day)

Land Use Category	2001			2006			2016		
	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	11,182	9,785	12,495	16,596	11,839	15,484	16,682	12,621	15,563
Commercial	8,386	7,483	4,845	12,447	9,053	6,004	12,512	9,651	6,034
Residential	NA	4,893	2,295	NA	5,919	2,844	NA	6,310	2,858
Public facilities/recreation	3,106	2,878	2,550	4,610	3,482	3,160	4,634	3,712	3,176
Federal	8,386	3,741	3,315	12,447	4,527	4,108	12,512	4,826	4,129
Total	31,060	28,780	25,500	46,100	34,820	31,600	46,340	37,120	31,760

Note: Numbers represent reuse-related waste generation (including demolition debris) .
Alt. 1 = Mixed Use Alternative
Alt. 2 = Industrial Alternative
NA = not applicable
P.A. = Proposed Action

Table J-9. Electricity Consumption by Land Use Category (MWH per day)

Land Use Category	2001			2006			2016		
	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	23	22	28	35	28	35	36	29	36
Commercial	18	17	11	26	21	14	26	22	14
Residential	NA	11	5	NA	14	7	NA	14	7
Public facilities/recreation	6	7	6	10	8	7	10	8	7
Federal	18	9	7	26	10	9	26	11	10
Total	65	66	57	97	81	72	98	84	73

Note: Numbers represent reuse-related demand.
Alt. 1 = Mixed Use Alternative
Alt. 2 = Industrial Alternative
NA = not applicable
P.A. = Proposed Action

Table J-10. Natural Gas Consumption by Land Use Category (MMCF per day)

	2001			2006			2016		
Land Use Category	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2	P.A.	Alt. 1	Alt. 2
Industrial	0.13	0.12	0.15	0.20	0.15	0.20	0.20	0.16	0.20
Commercial	0.10	0.09	0.06	0.15	0.11	0.07	0.15	0.12	0.07
Residential	NA	0.06	0.03	NA	0.07	0.04	NA	0.08	0.04
Public facilities/recreation	0.04	0.04	0.03	0.05	0.04	0.04	0.05	0.05	0.04
Federal	0.10	0.05	0.04	0.15	0.06	0.05	0.15	0.06	0.05
Total	0.37	0.36	0.31	0.55	0.43	0.40	0.55	0.46	0.40

Note: Numbers represent reuse-related demand.
Alt. 1 = Mixed Use Alternative
Alt. 2 = Industrial Alternative
NA = not applicable
P.A. = Proposed Action

Table J-11. Hazardous Materials Usage by Land Use Category

Land Use Category	Proposed Action	Mixed Use Alternative	Industrial Alternative
Industrial	Solvents, heavy metals, POL, corrosives, aerosols, fuels, ignitables, pesticides, paints, thinners, hydraulic fluids, plating chemicals	Same as Proposed Action	Same as Proposed Action
Commercial	Pesticides, cleaners, paints, thinners, aerosols, household products	Same as Proposed Action	Same as Proposed Action
Residential	NA	Pesticides, fertilizers, fuels, POL, cleaners household products, paints, thinners, aerosols	Same as Mixed Use Alternative
Public facilities/recreation	Pesticides, paints, thinners, cleaners, household products, POL, fuels, fertilizers	Same as Proposed Action	Same as Proposed Action
Federal	Thinners, paints, pesticides, cleaners, household products	Household products, cleaners, paints, thinners, pesticides	Same as Mixed Use Alternative

Note: Quantities of hazardous materials used will depend on the specific industrial development and are not reported here.
NA = not applicable
POL = petroleum, oil, and lubricants

Table J-12. Number of Installation Restoration Program Sites and Potential Contaminated Sites by Land Use Category

Land Use Category	Proposed Action	Mixed Use Alternative	Industrial Alternative
Industrial	2/18	0/8	1/13
Commercial	2/8	2/19	1/5
Residential	NA	5/6	0/3
Public facilities/recreation	5/16	4/9	8/20
Federal	1/6	0/5	0/5

Note: Summarized above are identified IRP sites and Potential Contaminated Sites as of 1995. The number of sites over the 1996-2016 period would change as remediation measures are implemented for individual sites. Sites may overlap Land Use categories and, therefore, may be counted more than one time.

IRP = Installation Restoration Program
#/# = IRP Site/Potential Contaminated Site
NA = not applicable

Table J-13. Geology and Soils Impacts by Land Use Category 2001-2016 (acres of ground disturbance)

Land Use Category	Proposed Action	Mixed Use Alternative	Industrial Alternative
Industrial	25	19	28
Commercial	20	26	6
Residential	NA	22	5
Public facilities/recreation	6	2	9
Federal	2	7	5
Total	53	76	53

NA = not applicable

Table J-14. Biological Resource Impacts by Land Use Category 2001-2016 (acres of wetland habitat potentially disturbed)

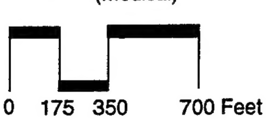
Land Use Category	Proposed Action	Mixed Use Alternative	Industrial Alternative
Industrial	0.5	0	0
Commercial	0.5	0	0
Residential	NA	0.75	0
Public facilities/recreation	1.0	1.25	2.0
Federal	0	0	0
Total	2.0	2.0	2.0

Note: Wetland effects.
NA = not applicable

EXPLANATION

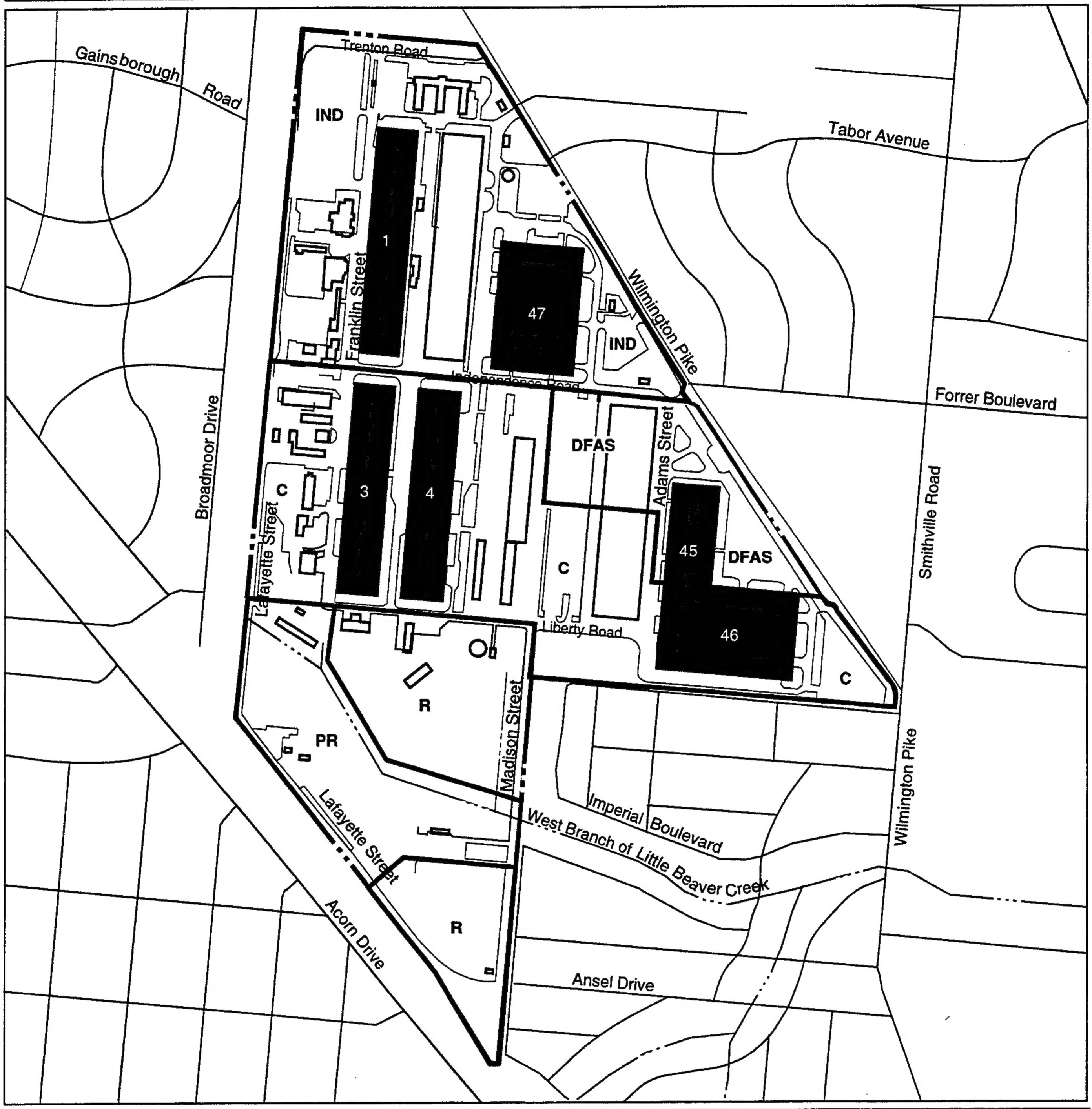
A	Airfield *	INT (E)	Institutional (Educational) *	VL	Vacant Land *
AS	Aviation Support *	C	Commercial - 37	FED	Federal - 24
IND	Industrial - 67	R	Residential *	----	Station Boundary
INT (M)	Institutional (Medical) *	PR	Public Facilities/ Recreation - 36	■	Retained Facility
		AG	Agriculture *	□	Demolished Facility

Proposed Action



* Standard land use designation not applicable to this figure.

Figure J-1



EXPLANATION

A	Airfield*	INT (E)	Institutional (Educational)*	VL	Vacant Land*
AS	Aviation Support*	C	Commercial - 54	DFAS	Federal - 17
IND	Industrial - 51	R	Residential - 25	----	Station Boundary
INT (M)	Institutional (Medical)*	PR	Public Facilities/ Recreation - 17	■	Retained Facility
		AG	Agriculture*	□	Demolished Facility

0 175 350 700 Feet

* Standard land use designation not applicable to this figure.

Mixed Use Alternative

Figure J-2

Industrial Alternative

EXPLANATION

A	Airfield*	**C**	Commercial - 20	**DFAS**	Federal - 17
AS	Aviation Support*	**R**	Residential - 6		Station Boundary
IND	Industrial - 68	**PR**	Public Facilities/ Recreation - 53		Retained Facility
INT (M)	Institutional (Medical)*	**AG**	Agriculture*		Demolished Facility
INT (E)	Institutional (Educational)*	**VL**	Vacant Land*		

0 175 350 700 Feet

* Standard land use designation not applicable to this figure.

Figure J-3